Applied Science Dept.

MODERN PACKAGING

V. 29 3 May-Aug. 1956

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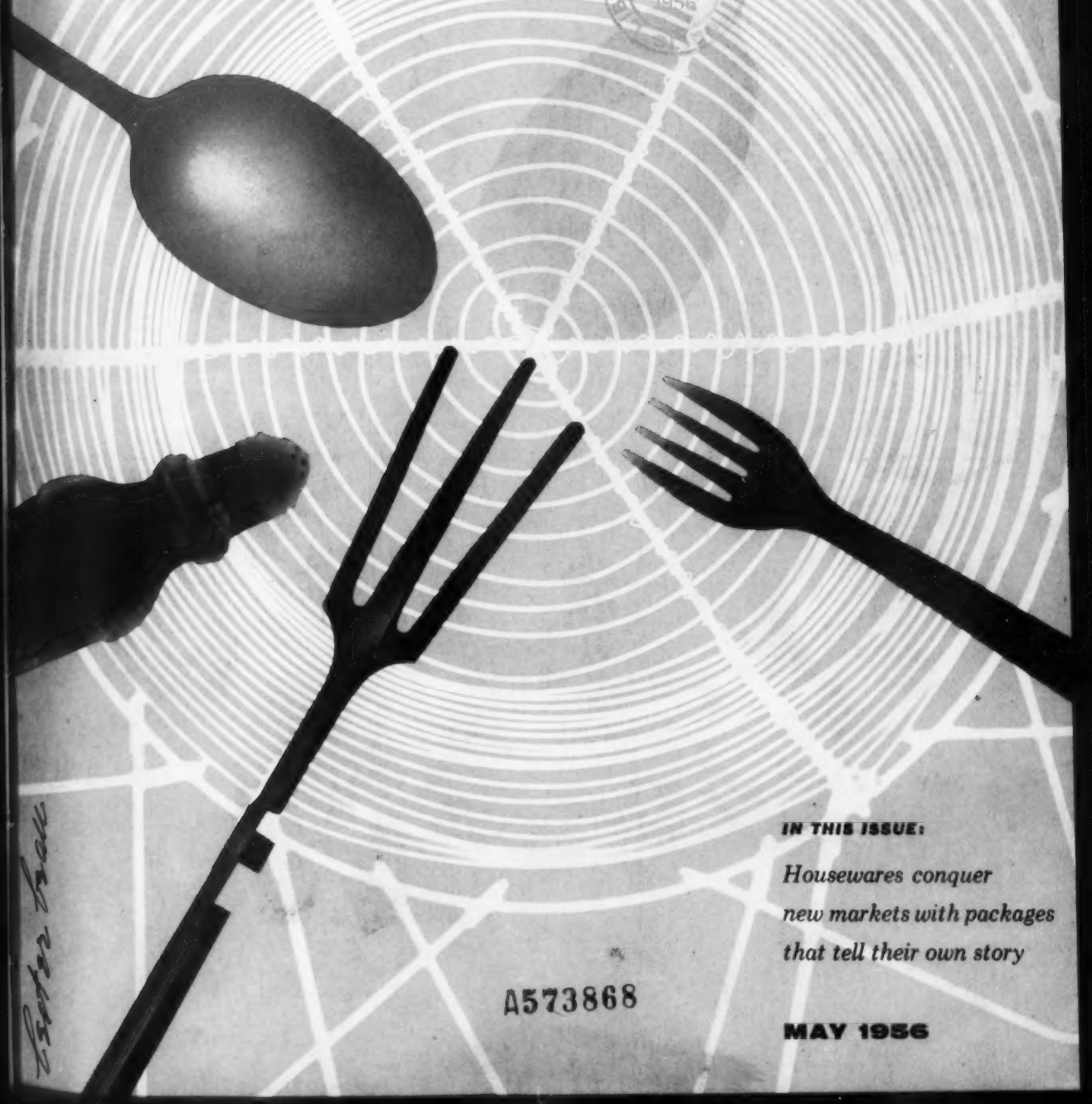

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Housewares conquer new markets with packages that tell their own story

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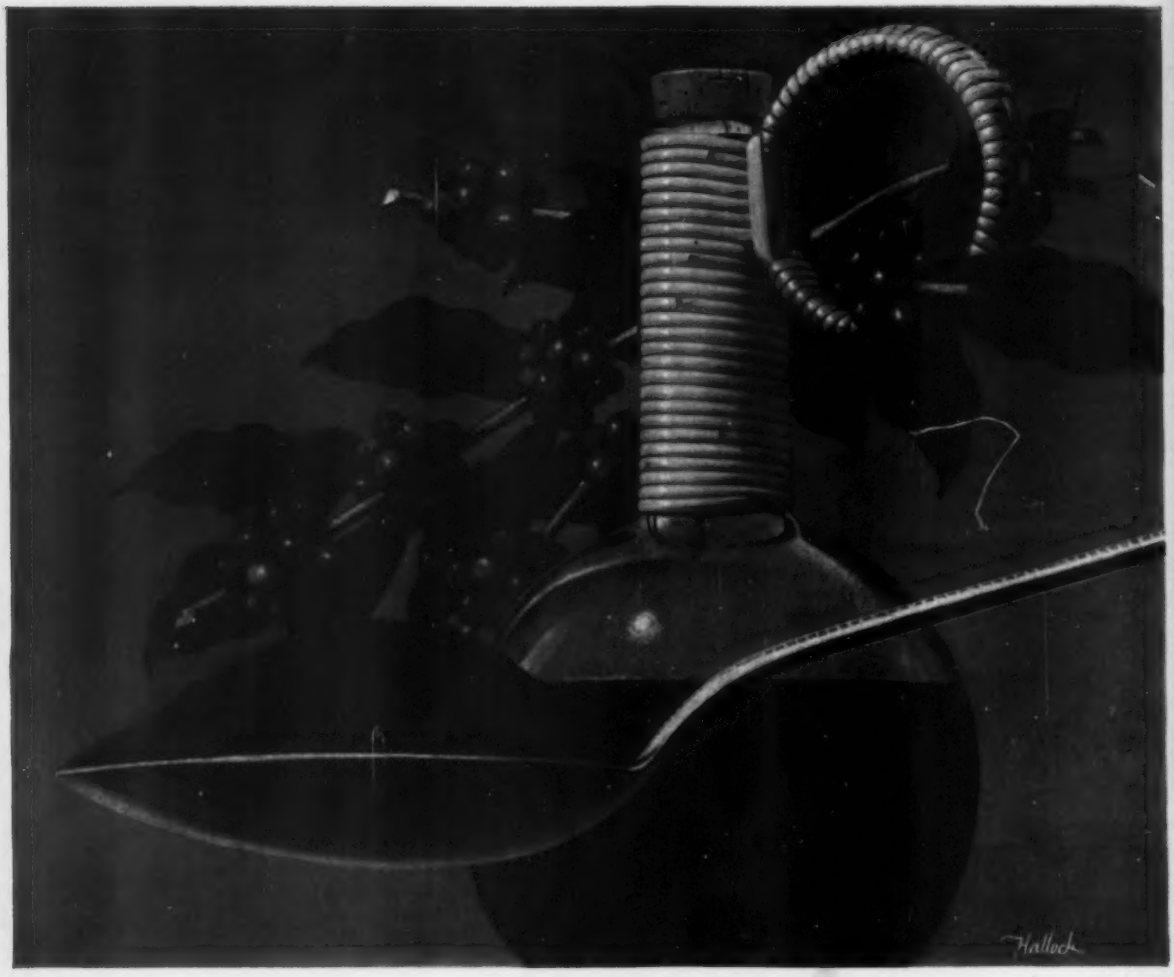

Illustration courtesy of THE FIRST NATIONAL CITY BANK *of New York*

The huge task of keeping coffee fresh

Each year—the freshness of over *2 billion pounds* of coffee has to be protected until it reaches the nation's coffee cups.

Protective packaging adhesives help to make and seal paper bags and cartons lined with moistureproof paper, foil and plastic for *900 million pounds* of coffee. They label glass bottles and attach moistureproof seals for instant coffee made from another *225 million pounds* of coffee beans. They seal and label shipping cases for over *2 billion pounds* of coffee in bags, bottles and vacuum tins.

These adhesives are made from resin, starch and dextrine bases. They must be colorless, tasteless, nontoxic, moisture resistant, nonstaining, heat sealing, high speed and capable of bonding a wide range of surfaces, as required. National is a major producer of industrial adhesives through chemistry—*a result of selective research and development.*

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ork

SPATTERDASH OF INK COLOR . . . Ink drum lid photographed in a Gair Folding Carton Plant.

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Some cartons talk up to the shopper — others just mumble.

At Gair you can count on getting the first type. For one thing, we take a long look at your marketing set-up by means of a Gair Package Analysis*. Then we *know* what we're shooting for when your carton arrives in our printing department.

But finding the exact colors to make your carton speak up also takes a deep knowledge of printing inks, plus a patient willingness to keep mixing them — till suddenly they're right. Colors that are only "pretty close" to right won't do on the nation's self-service counters where your product carton is on its own.

Gair Package Analysis is the unique service which blue-prints a successful carton for your product. Your nearest Gair office will be glad to have a representative call. No obligation, naturally.

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creative engineering in packaging

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FOLDING CARTONS • SHIPPING CONTAINERS • PAPERBOARD

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MODERN PACKAGING®

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It's a new, all-inclusive term for a major new kind of packaging in plastic sheet.

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APR 15 1957

REDINGTON *TYPE 27* AUTOMATIC Cartoning Machine . . .

since 1899
REDINGTON
AUTOMATIC MACHINES for CARTONING
WRAPPING ★ SPECIAL PACKAGING

CARTONS YOUR PRODUCTS FAST—AT LOWER COST . . .

The Type 27 is a belt intake, fully automatic, carton forming, filling and closing machine built with the same fine engineering features of the more expensive units. It can be used for bottles, bars and many other solid products not requiring enclosures in the package other than the article itself. Because a belt intake is utilized instead of article pockets, and by simplified filling mechanism design, manufacturing economies have been possible with this machine which mean distinctly lower cost to the buyer. Yet REDINGTON engineering and workmanship features remain uncompromised.

This style of REDINGTON machine is being used for bottles, jars, hearing aid batteries, soap, wrapped nougats, wrapped prints of oleomargarine and of pie crust mix, wrapped candy bars or pieces, and friction tape. And, of course, there are many more products which it can be adapted to handle efficiently.

★ *SEND FOR NEW EDITION OF COMPLETE CATALOG—JUST OUT*

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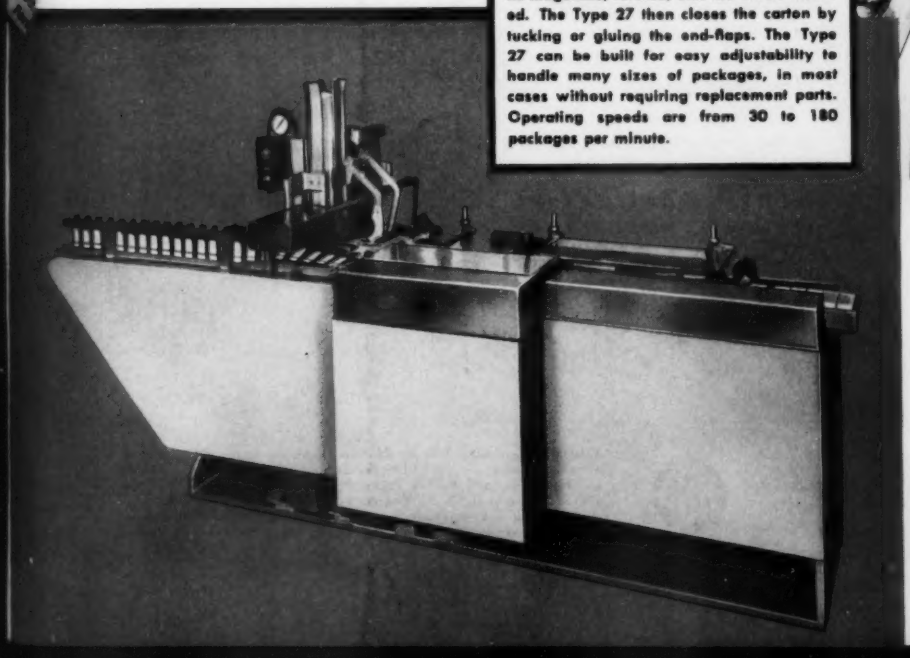
Verona, New Jersey CEnter 9-4608



ARTICLES ARE SIMPLY FED into the machine on the intake belt, and a carton is fed from its magazine, formed, and the article inserted. The Type 27 then closes the carton by tucking or gluing the end-flaps. The Type 27 can be built for easy adjustability to handle many sizes of packages, in most cases without requiring replacement parts. Operating speeds are from 30 to 180 packages per minute.

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No more ring-around-the-rosy?

Slowly and ponderously, the legislative machinery in Washington is grinding out a bill which may put an end to the ridiculous guessing game on the acceptability of chemical components for food packaging materials.

Now pending is legislation which, in effect, would require submitting data for approval by the Food & Drug Administration before a new plastic or other chemical is incorporated in food packaging. The present law does not require or empower prior approval and gives F&DA no authority to stop the use of any material—until *after* a dangerous package has been marketed and can then be proved to have endangered health.

Up to now F&DA could go no farther than to publish, in MODERN PACKAGING of January, 1955, an article by Drs. Lehman and Patterson* setting forth criteria by which various known ingredients probably would or would not be accepted—an article which, incidentally, has brought more requests for tear sheets and reprints than anything this magazine ever published.

The pending legislation consists of 11 separate bills, which must be boiled down to one. The objective on which all agree, however, is to make illegal the sale of any unevaluated chemical food additive or food packaging material until extraction data and, if necessary, toxicological data, have been submitted to F&DA. Established components and materials which experts generally recognize as safe would not be affected.

Far from bucking regulation, here's a case where industry is pleading for it—with the warm support of F&DA. The food and chemical industries differ with F&DA only on what should be done in cases where data are inadequate or indicate that the material is not safe. The industry groups want enforcing action in such cases to be taken through the courts. F&DA wants primary power to bar the material, subject to appeal to the courts.

Details of limitation and procedure remain to be worked out, but the heartening fact is that we seem to be well on the way to solution of one of our most urgent packaging problems. The National Research Council is sufficiently reassured that it has, reportedly, dropped its proposed investigation of the whole question of food additives.

The danger is that the work may be sidetracked and all this progress lost in the pre-election rush to adjourn Congress this summer. It will help if you, as a packager, will make the urgency clear to the Subcommittee on Science and Health of the House Committee on Interstate and Foreign Commerce, where the matter now rests, or to your Congressman.

*See "F&DA Acceptance Criteria," Jan., 1955, p. 115.

The Editors

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i[D]ea at work...

Dobeckmun "Veri-Kleer" polyethylene boosts sales for Allen-A

Retailers are sold on the superior clarity and strength of Dobeckmun's "Veri-Kleer" polyethylene packages. They not only keep merchandise spanking clean and sanitary, they speed up the selling operation. In printed or plain bags, merchandise is seen at its best. And you'll welcome the easy, economical handling of Dobeckmun polyethylene in your plant. When you see Dobeckmun ideas working for you, you'll wonder why you didn't get in touch with us sooner.

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Rochester • Salt Lake City • San Antonio • Seattle • St. Louis • St. Paul • Syracuse • Tampa • Yakima • Havana • London • Amsterdam

Colgate's famous foaming cleanser, *Ajax*, is cleaning up in this famous red and white package. HARCORD is proud to be among the suppliers of the quality fibre canisters Colgate uses to protect the efficiency of its popular products.

The "Copper Look" label on *Copper Clad Cleaner* is the perfect salesman for this quality miracle cleanser. And the carefully engineered paper canister affords moisture protection to the contents, a vote of confidence for Harcord's six year service record with Copper Clad.

Sears, Roebuck & Co. *Maid of Honor* rug and upholstery cleaner finds its perfect dispenser in a Harcord paper canister. Both lid and sift openings were incorporated to facilitate the actual dispensing of the powder for the housewife.

Cleansers for everything including the kitchen sink . . . all find paper canisters the inexpensive and protective packaging answer. Yet, each and every one differs in its particular package requirements. That is where Harcord's small family organization figures so importantly. It permits personalized handling of every packaging problem . . . greater production flexibility . . . greater customer satisfaction.

you sell it better, you say it best in Paper Canisters by

HARCORD

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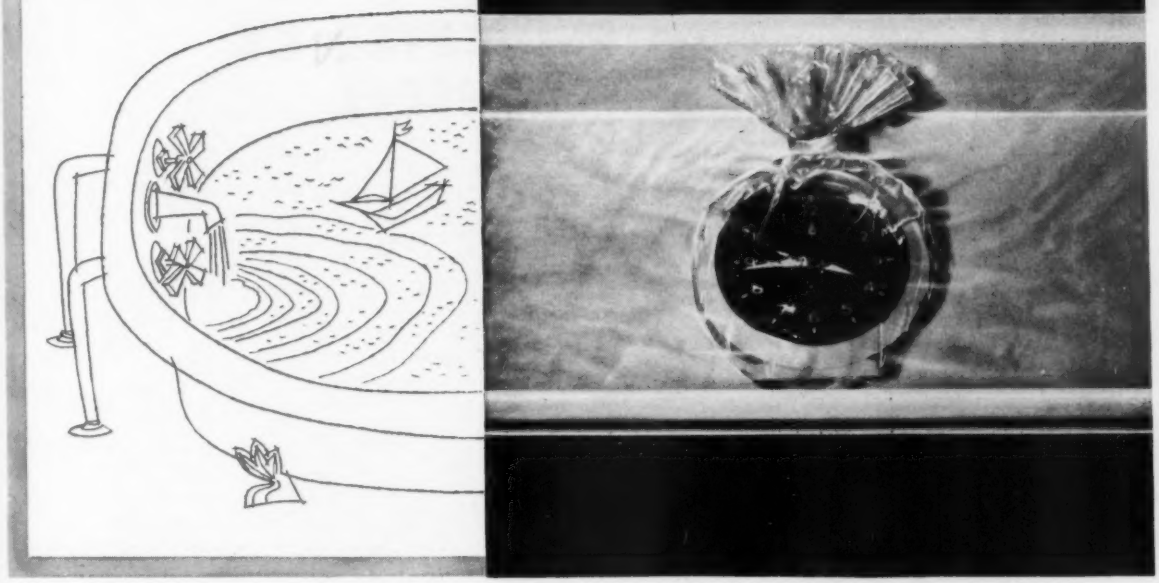
Rub-a-dub-dub ALARM CLOCK'S IN THE TUB

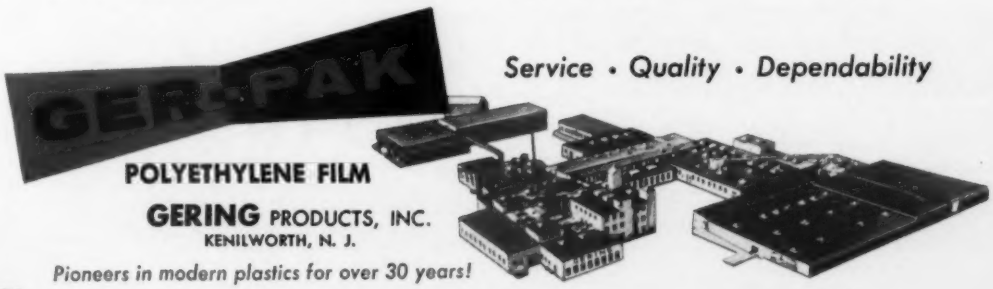


Protected by GER-PAK®

Polyethylene sheeting and tubing

Here's a homemade torture test we tried with our 8 day clock — and we invite you to try the exact same test with your own product . . . to dramatize the great packaging gains you can achieve with Ger-Pak polyethylene film! For Ger-Pak gives full protection — *dependable* protection . . . against water, grease, acids, alkalis, dust and bacterial contamination. The tough, chemically inert film stands up against heavy abuse — and helps cut packaging costs to the bone . . . especially if you switch to the new lightweight shippers with Ger-Pak Liners.

You'll find it easy to use Ger-Pak. This pure, uniform gauge polyethylene film is available in tubing and flat sheeting in any required widths and unlimited lengths. For full information, please write.



Service • Quality • Dependability

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GERING PRODUCTS, INC.
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Pioneers in modern plastics for over 30 years!

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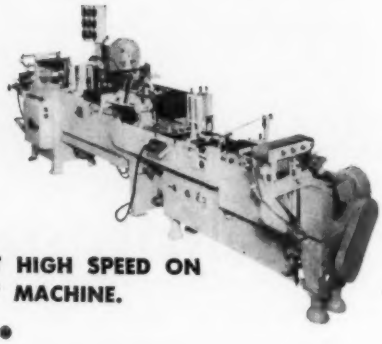
Q-T SNOW-WHIP FROSTING MIX USES HEAT-SEAL POUCH OF RIEGEL'S POLY-COATED LAMINATED AMBER GLASSINE.



RUN AT HIGH SPEED ON BARTELT MACHINE.

Protecting the sales-winning qualities of fine products is only one of the many functions of Riegel papers. Saving money is important, too. Riegel does it for you by creating the right combination of the most efficient packaging materials . . . and by "tailor-making" the paper to run and seal at high speeds on your machines. Tell us what you want paper to do for you. Riegel Paper Corporation, P.O. Box 170, Grand Central Sta., New York 17, N. Y.

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From coast to coast NATIONAL CAN has proven to be a reliable and resourceful supplier of quality cans and thoughtful service.

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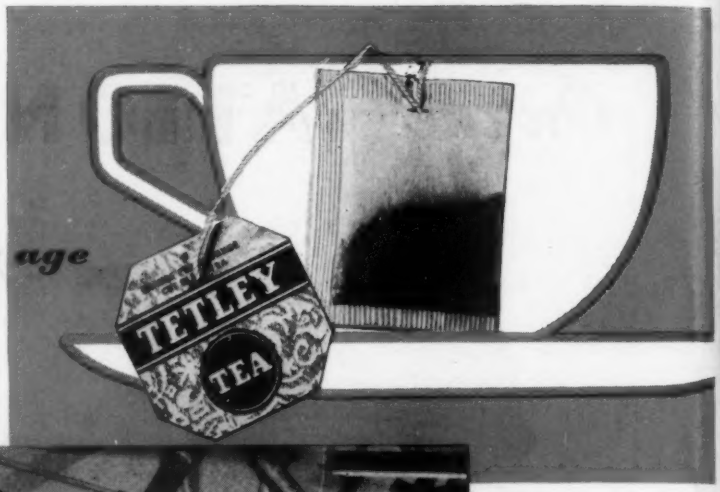
...PLANTS FROM COAST TO COAST

The greatest little package of the age



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PNEUMATIC

MAKERS OF

Packaging and Bottling Equipment

Time was when tea could be made only in a teapot. NOW much of it is brewed right in the cup, at the table. Almost overnight the tea bag changed the custom of centuries.

Much of TETLEY'S famous tea is sold in this form—more and more each year. The same applies to most other leading tea brands. And, while these brands vary in flavor, one thing is true of all—their bags are made and tagged—on PNEUMATIC Tea Bag Machines.

Pneumatic developed and perfected the first machine for making tea bags, so it deserves credit for bringing into being this great packaging innovation. If your product is dry and free flowing, powder, or liquid in form, you, too, can look to Pneumatic—the country's leading specialist—for the most modern and efficient equipment designed to handle your packaging or bottling operations.

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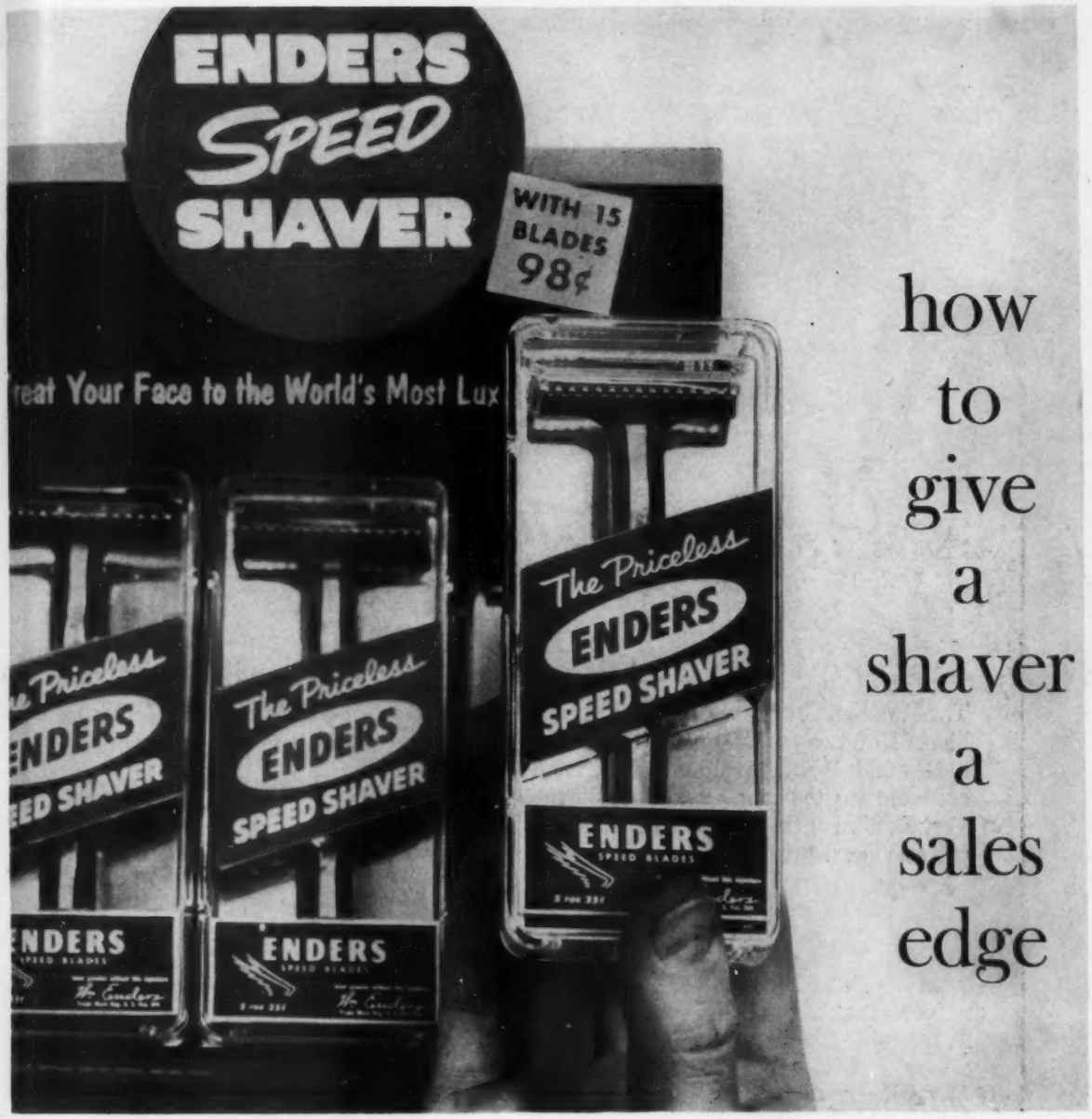
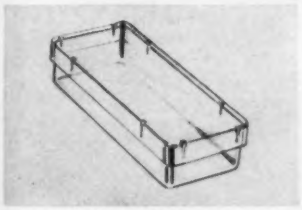


how to give a shaver a sales edge



Tri-State Box No. 05
2" x 5" x 1"
From the world's large assortment of stock sizes and shapes, or let us mold large quantities to your specifications.

Putting a sharp edge on promotion is half the battle in the competitive shaver and blade business. *Durham-Enders Razor Corporation* does it with a TRI-STATE rigid plastic bonus box. The crystal-clear package sells the shaver set on sight . . . and gives the customer something for free: an attractive travel case . . . a handy re-useable container. Six of these handsome sets fit into a compact carton that ships easily, opens into an eye-stopping display that dealers are proud to put on their counters.

There's a TRI-STATE rigid plastic box to fit your product, build your sales, cut down on your packaging operations. Package in plastic — rigid plastic — for added protection, greater point-of-sales appeal, bonus utility boxes for your customers.

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RCHIDS TO *Knudsen*

FOR "THE VERY BEST" ICE CREAM

...with the Quality-Protected Seal!

The Knudsen Creamery Co. puts its entire line of Knudsen Ice Cream and Sherbets in Reynolds Wrap Aluminum Packaging as one more way to back up its claim of "The Very Best". For this packaging effectively protects against damaging light rays, foreign odors and moisture gain or loss. And the Seal is there to say: *protected quality*.

Reynolds Wrap Aluminum Packaging helps ice cream freeze faster and smoother. Its radiant heat reflection is like insulation ... keeps the product better in refrigerated cabinets, travels it better from store to home. And one look will tell you this is a package to stop the eye and lure the reaching hand!

There are higher sales levels ahead for products that take on the extra eye-appeal and superior protection of Reynolds Wrap Aluminum Packaging...and the Seal. Call the nearest Reynolds Sales Office. Or write to **Reynolds Metals Company,** General Sales Office, Louisville 1, Kentucky.

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FRONTIER

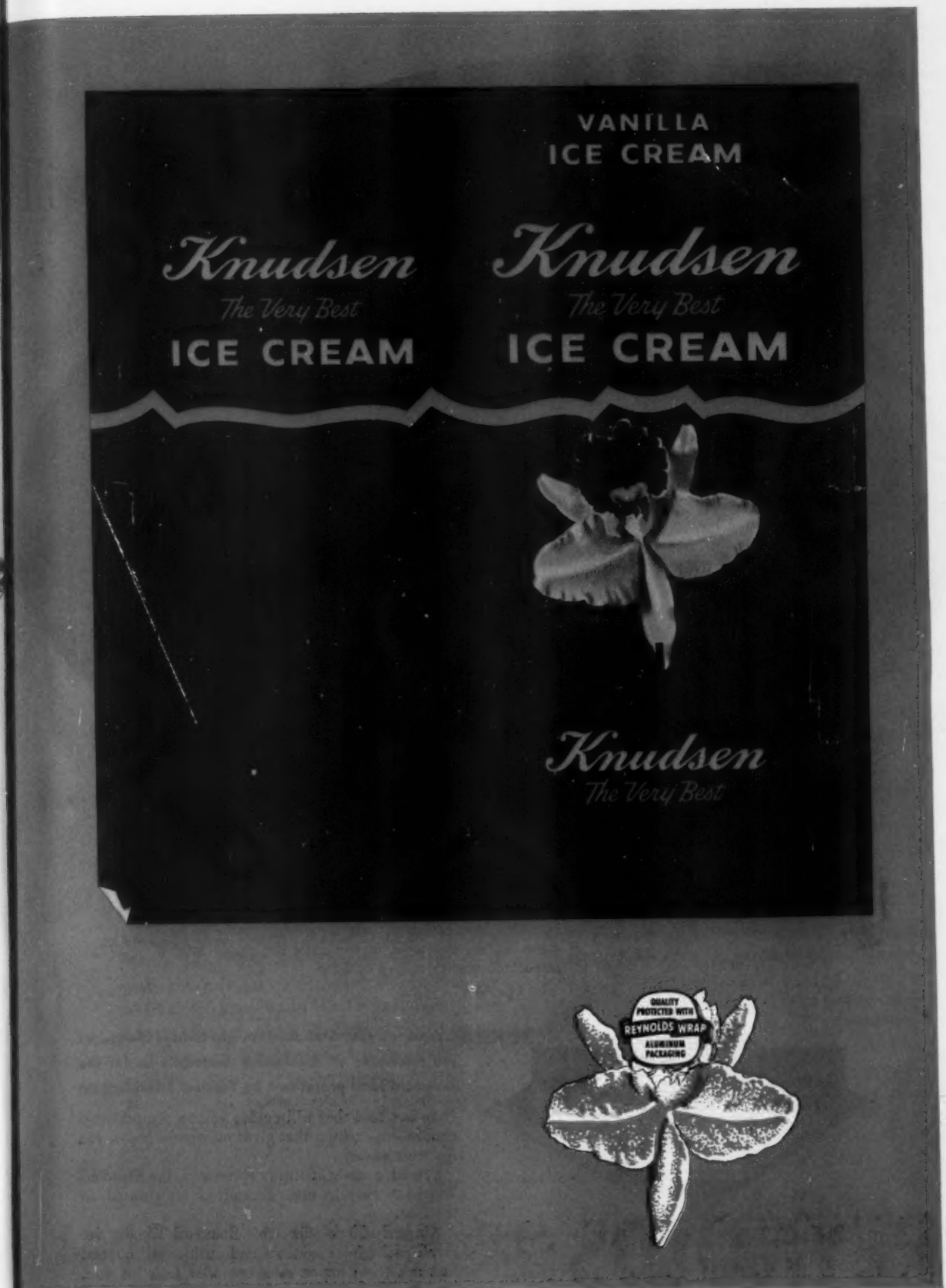
BUY foods in FOIL... they're RAINBOW FRESH! RAINBOW BRIGHT

More and More Consumers Look for this Seal!

Recent 44-city survey shows 72.5% of women respondents could identify the Seal and 59.2% of these women prefer food products that carry it! Consistently and powerfully promoted... four-color full pages in national monthly magazines... Network TV* every week... store-wide "rainbow" displays of foil-packaged products.

*See "FRONTIER", Reynolds great dramatic series, Sundays, NBC-TV Network.

REYNOLDS ALUMINUM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The Very Best
ICE CREAM
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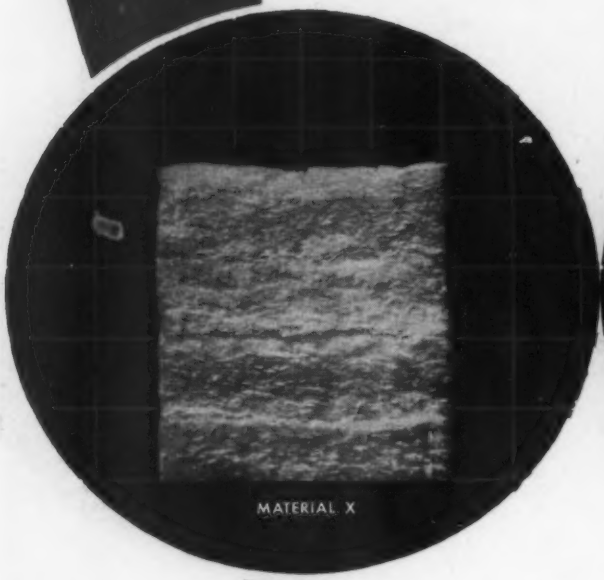
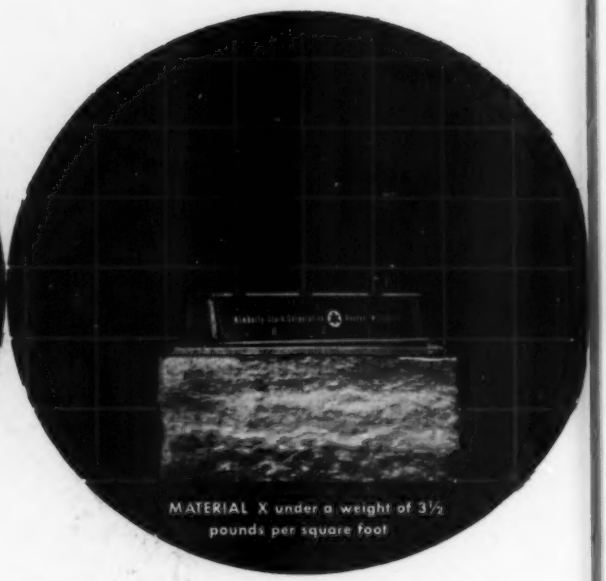
QUALITY PROTECTED WITH
REYNOLDS WRAP
ALUMINUM PACKAGING

Which cushioning material will


MATERIAL X


MATERIAL X under a weight of 3½ pounds per square foot

Cushioning Material X, in the photograph on the left above, looks thick enough to protect practically any product against breakage. It's almost twice as thick as the first Kimpak sample on the right. But see how Material X compresses to less than half its original thickness under a Standard Weight. Kimpak under the same weight compresses very little.

The thickness of a cushioning material under a standard load is called "effective thickness"—or in other words, thickness in use. It's the single most important quality of any cushion.

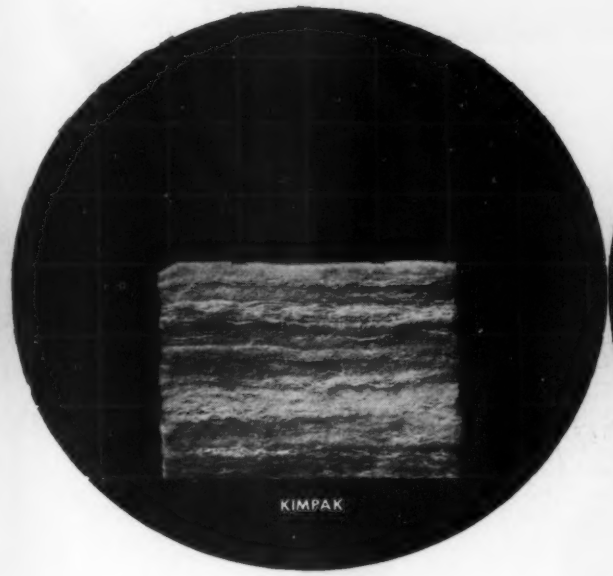
FREE—send for your Standard Weight today! Measures the thickness of cushioning materials under the standard load prescribed by Federal Specification

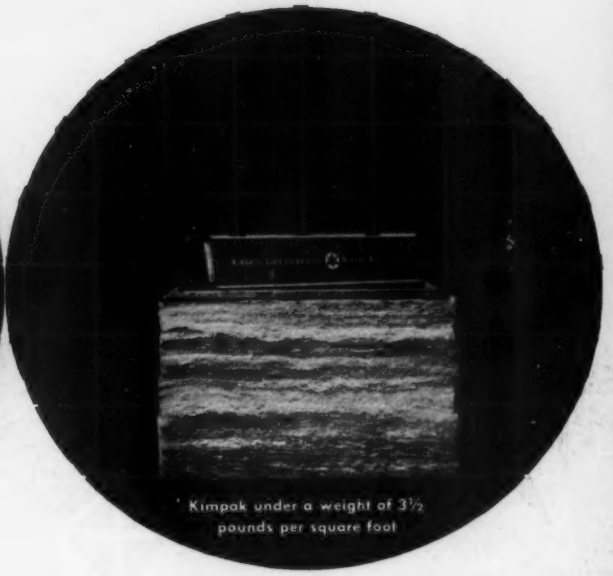
Here is a tool that will enable you to compare and choose the cushion that gives maximum protection for your money.

Precision made of sturdy aluminum, the Standard Weight is easy to use. Directions are printed on the face.

Kimberly-Clark offers this Standard Weight *free* to all packaging engineers and cushioning buyers. Just ask the Kimpak salesman who calls on you. Or write to Kimberly-Clark, Dept.M-4,Neenah, Wis.

give your product better protection?





You can depend on the effective thickness of Kimpak to give you positive protection!

Compare the "*effective thickness*" of the cushion you're using now with Kimpak. You can do it easily, quickly with a Standard Weight designed to check thickness under the 3½ pound per square foot loading required by Federal Specification.

A Standard Weight eliminates any fluffy, non-working consistency of a cushioning material—gives you an accurate picture of the *working* cushion in your package.

You'll find the "effective thickness" of Kimpak insures reliable shock absorption and surface protection. Kimpak shields your product from the roughest handling—protects it from movement—and from dirt and cinders that sift into the containers. You'll find, too, this superior protection costs no more than ordinary packaging materials.

Call your Kimpak salesman. Ask him to show you the Kimpak line—today!

Kimberly Clark Corporation, Neenah, Wis.

Kimberly Clark
INTERIOR PACKAGING
KIMPAK

the plus of Ekco-Alcoa Containers

New sales records have been reported from coast to coast by manufacturers in every field who package their products in gleaming, eye-appealing aluminum foil packaging. Rigid aluminum foil packaging by Ekco-Alcoa Containers adds a new dimension to this consumer appeal . . . the magic of convenience. Buy in them, heat in them, eat from them—then throw them away. Proof of their desirability is a matter or record . . . for instance, one manufacturer increased sales from 25% to 100% in different markets, by marketing his product in packages designed by Ekco-Alcoa Containers.

The Plus Container

trademark

EKCO-ALCOA CONTAINERS *Inc.*

1900 North River Road • River Grove, Illinois

EKCO is the registered trademark of Ekco Products Company, ALCOA is the registered trademark of Aluminum Company of America. The corporate name and combination mark, EKCO-ALCOA, is used under license to the manufacturer by each of these companies.

Frank Gianninoto

says this about

the Craddock plan

Frank Gianninoto, President of the Package Designers Council, and recognized as one of America's top industrial designers.

"I like this new Craddock Plan of Specialty Papers because it presents a sound and logical approach to any design development program. It takes full advantage of the highly specialized talents of those who determine the design's structure and sales appeal and the technical knowledge of the converter who must reproduce the design.

The Plan brings the inter-locking problems of product protection, design creation and design reproduction together at the very beginning of the program . . . leading to the development of better designs that can be faithfully reproduced within desired cost limits."

Write for a Free brochure on The Craddock Plan.

MULTI COLOR, DESIGN PRINTING ON PROTECTIVE PAPERS, FOILS AND FILMS.

THE SPECIALTY PAPERS COMPANY, DAYTON, OHIO

NEW YORK. CHICAGO. BALTIMORE. ATLANTA. OMAHA. DENVER. SAN FRANCISCO. SEATTLE. ROCHESTER, N. Y.

Now-Better-than-ever,

75BF P

Clearer-than-ever PLIOFILM

—*gives you sell-on-sight packaging*

The finest protective film on the market is now second to none in clarity. That's the good news about 75BF PLIOFILM – Goodyear's multi-purpose packaging material.

The improved transparency of 75BF PLIOFILM benefits a long, long list of items. It means better overwraps and window cartons. And it adds sell-on-sight appeal to the other proved advantages of PLIOFILM:

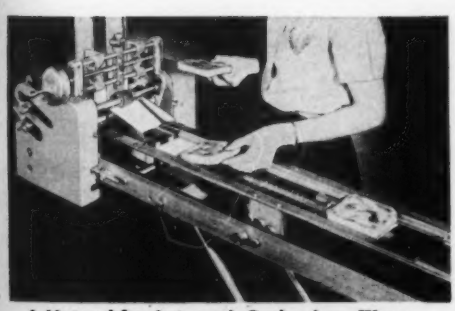
Dimensional stability that prevents cracks or wrinkles with changing humidity conditions. *Puncture-resistance* that reduces broken packages. *Moisture-resistance* that seals in flavor and quality. *Printability* that boosts your brand name.

PLIOFILM adapts easily to all kinds of automatic packaging machinery. For the whole story on the new, clearer 75BF PLIOFILM, write the Goodyear Packaging Engineer. Address: Goodyear, Packaging Films Dept. Q 6418, Akron 16, Ohio.

GOOD THINGS ARE BETTER IN

Pliofilm

GOODYEAR PACKAGING FILM



A Natural for Automatic Packaging—Wrap King Machine turns out up to 80 PLIOFILM luncheon meat packages per minute.

Pliofilm, a rubber hydrochloride—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

one-stop shopping

Labels, packaging, displays, brochures, calendars.

Modern one-stop shopping coordinates your complete promotion program. Planned by creative designers with success stories in every major marketing field . . . produced by scientific quality control. Bronzing, embossing, die-cutting and every sort of varnishing, including our exclusive Consol-Lustre.

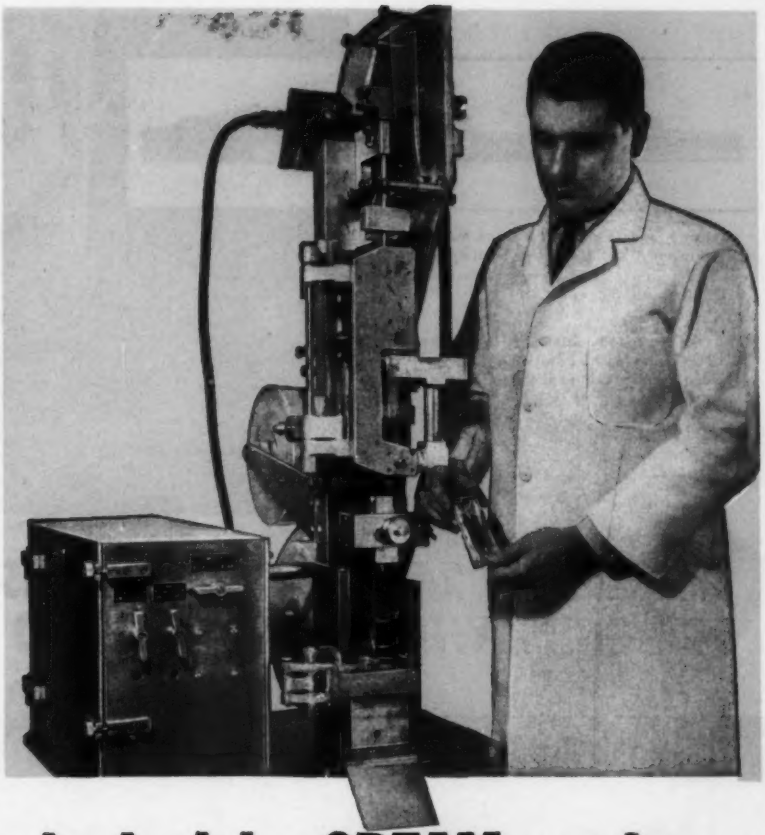
Laboratory-testing for scuff and fade resistance.

Won't it be worth your while to use this efficient, one-stop shopping plant?

Consult Consolidated on your next promotion plan.

CONSOLIDATED
Lithographing Corporation
CARLE PLACE, LONG ISLAND, N. Y.
Representatives throughout the United States

Window, Counter or Merchandising Displays in Light, Motion or Dimension



Hail the new single dairy CREAM service...

Newest and most exciting application of Cellothene... the extrusion laminated film of cellophane/polyethylene... is an individual serving and disposable dairy cream pouch.

Shown above is a new pilot model of the *Liquid-Wrap machine* for producing individual-portion pouches. It fills a 1 oz. Cellothene pouch with coffee cream at high speed.

Two strips of preprinted Cellothene are brought together, heat-sealed along the sides and bottom, to form a pouch. Cream is pumped from a container, and a measured unit injected into the pouch. The pouch is then heat-sealed at the top, perforated and cut off—*all fully automatic.* Made of Walker Shaw metal, stainless steel and aluminum, the machine has electronically controlled registration and heaters ... ultra-violet light for sterilizing.

Tearing off the top exposes the patented controlled S-Spout. When the package is squeezed gently... liquid is freed as desired. When pressure is removed the patented controlled S-Spout retards the flow. A half-empty pouch may be laid aside without dripping.

Pouches range in size from ⅛ oz. to 4 oz. The spout width varies in relation to the viscosity of the liquid.

Unlimited packaging qualities... transparency, gas permeability, heat sealing, labeling, etc., are available in the various weights of Cellothene and other Cheslam combinations of foil, kraft, etc.

A tamper-proof, sanitary product that carries its own vital selling message, produced by automation at uniformly low cost, opens unlimited possibilities, eliminates costly labor, wasteful spillage and receptacle returns. New highs in sanitation and distribution are attained. We urge you to examine your product list today with an eye to applying the individual disposable pouch, making use of numerous Cheslam wrap combinations.

LIQUID PACKAGING MACHINERY MANUFACTURERS

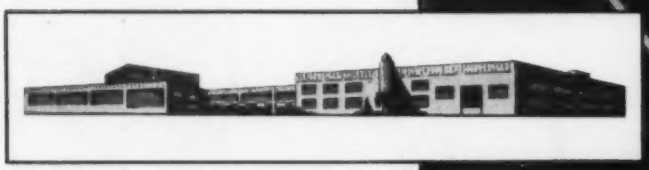
Bartelt Engineering Co., Rockford, Ill.
Bell Machine Company, Oshkosh, Wisc.
Brown Bag Filling Machine Co., Fitchburg, Mass.
Counsel Machine Co., Inc., Wallington, N. J.
Hayssen Mfg. Co., Sheboygan, Wisc.
Package Machinery Co., Springfield, Mass.
Roto Wrap Machine Corp., Englewood, N. J.
Wrap-Ade Machine Co., Inc., Belleville, N. J.

...for greater packaging profits

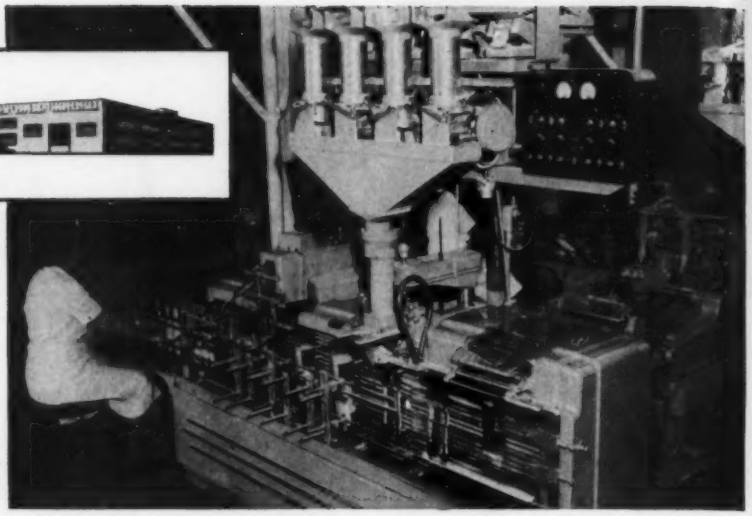
CHESLAM CORPORATION
Division of Chester Packaging Products Corp.
684 Nepperhan Avenue — Yonkers 2, New York
Offices in Chicago • Philadelphia • Detroit • Los Angeles • Atlanta • Boston • Montreal

☐ *Please Send More Information*
☐ *Have Representative Call*

Company_____
Address_____
City_____ Zone___ State____
Name_____ Title____

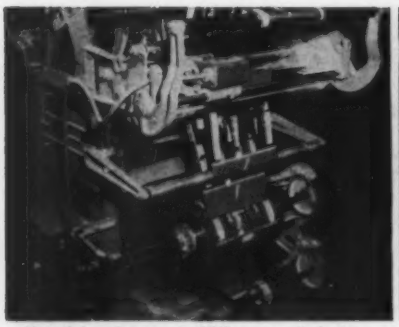


Large modern plant of Mission Macaroni Company, Inc., located in Seattle, Wash.

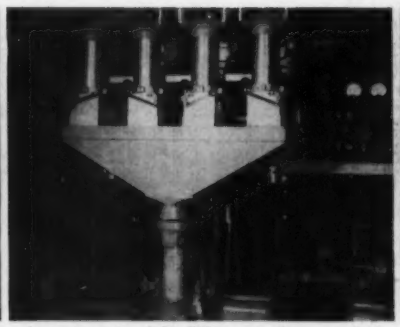


One of two fully automatic Simplex-O-Matic Packaging Machines forming, weight-filling, and sealing cellophane bags of macaroni products.

PACKAGING 24,000 BAGS OF MISSION MACARONI PER SHIFT WITH SAVINGS UP TO 50%



Material savings up to 25% are made in forming bags from printed roll stock.



Accurate net-weight filling cuts down product "give-away."

Savings up to 50% are realized over manual packaging methods.

"We've boosted sales too, with attractive cellophane bags which display the superior quality of our products."

Says Guido P. Merlino, President
Mission Macaroni Company, Inc., Seattle, Wash.

"Not only have we cut our packaging costs by putting in two Simplex automatic lines but we've stopped product giveaway with the accurate net weight fillers on these units. We can average 1000 cases of 12's on each machine in a shift, including change-overs, handling shells, elbow macaroni, and elbow spaghetti. We've found that we get a better looking sealed package that sets off the true quality of Mission Products. Each machine keeps a girl busy casing while one operator easily handles both of these machines along with other equipment."

Neater, more attractive packages visibly display product quality for greater "eye and buy" appeal.

Write today for full details on Simplex-O-Matic, fully automatic packaging. Request Bulletin SOM-1.

Simplex®

SIMPLEX PACKAGING MACHINERY DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION
534 - 23rd AVENUE, OAKLAND 6, CALIFORNIA
Foreign Sales: FMC Export Dept., P. O. Box 760, San Jose 6, Calif. (Cable Address: FOODMACHIN)

fmc®

REPRESENTATIVES IN ALL PRINCIPAL CITIES

TEXCEL®

CELLOPHANE TAPE

PERMACEL TAPE CORPORATION, NEW BRUNSWICK, NEW JERSEY • a Johnson & Johnson company

Fresh as a Daisy!

You can be assured that your butter reaches the housewife "fresh as a daisy" when you wrap it in West Carrollton Genuine Vegetable Parchment.

This reliable, time-tested parchment has *great strength*—wet or dry. Also it is *odorless*, *grease resistant* and *insoluble*. Why not send for samples and information?

West Carrollton
GENUINE VEGETABLE
Parchment

- BUTTER WRAPPERS
- BUTTER TUB LINERS & CIRCLES
- MILK & ICE CREAM CAN TOPS
- MEAT WRAPPERS
- LARD CARTON LINERS
- VEGETABLE SHORTENING CARTON LINERS
- LINERS FOR MEAT TINS
- TRI-WRAP FOR SMOKED MEATS
- SLICED BACON WRAPPERS
- FISH FILLET WRAPPERS & INSERTS
- CELERY WRAPPERS
- CHEESE WRAPPERS
- POULTRY WRAPPERS
- OLEOMARGARINE WRAPPERS
- TAMALE WRAPPERS
- BAKERY PAN LINERS
- BUTTER BOX LINERS
- PARCHMENTIZED KRAFT PLAIN OR PEBBLED
- RELEASE PARCHMENT
- GREETING CARD PARCHMENT

GLOSS-WRAP for smoked meats (single, double or tri-wrap) • AVENIZED • MYCOBAN • QUILON & DRY WAXED PARCHMENT
CLEAN FOOD PAPER—For Delicatessen and Grocery Stores, also Fish and Meat Markets.

WEST CARROLLTON PARCHMENT COMPANY • WEST CARROLLTON, OHIO

SALES OFFICES: New York, 99 Hudson St. • Chicago, 400 W. Madison St.

Another container of distinction

by Royal

Bottles from stock molds (¼ oz. to 32 oz.) are stocked by these distributors:

LOS ANGELES
Berri-Ecklund Associates
4726 Melrose Ave.

PATERSON, N. J.
Modern Decorating Co.
155 Oxford St.

CHICAGO
Empire Bottle Inc.
1301 So. Talman St.

MIAMI, FLA.
Magic City Bottle & Supply Co.
1380 N.W. 23rd St.

SAN FRANCISCO
Marketing Agents, Ltd.
207 Powell St.

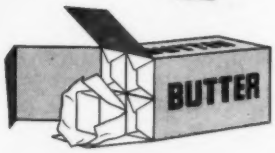
MONTREAL
Brewers Bottle & Supplies, Inc.
1655 Des Carrieres St.

Royal designs and produces containers for leading manufacturers throughout the nation and has complete facilities to produce private mold designs at surprisingly low cost.

Royal

ROYAL MANUFACTURING COMPANY, INC. PRESCOTT, ARIZONA

Fresh as a Daisy!



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This reliable, time-tested parchment has *great strength*—wet or dry. Also it is *odorless*, *grease resistant* and *insoluble*. Why not send for samples and information?

West Carrollton GENUINE VEGETABLE Parchment

BUTTER WRAPPERS
BUTTER TUB LINERS & CIRCLES
MILK & ICE CREAM CAN TOPS
MEAT WRAPPERS
LARD CARTON LINERS
VEGETABLE SHORTENING CARTON LINERS
LINERS FOR MEAT TINS
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SLICED BACON WRAPPERS
FISH FILLET WRAPPERS & INSERTS
CELERY WRAPPERS
CHEESE WRAPPERS
POULTRY WRAPPERS
OLEOMARGARINE WRAPPERS
TAMALE WRAPPERS
BAKERY PAN LINERS
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CHICAGO
Serrini Bros., Inc.
1501 So. Talman Ave.

MIAMI, FLA.
Magic City Bottle & Supply Co.
1380 N.W. 23rd St.

SAN FRANCISCO
Marketing Agents, Ltd.
207 Powell St.

MONTREAL
Brown Bottle & Supplies, Inc.
1655 Rue Carrieres St.

Royal designs and produces containers for leading manufacturers throughout the nation and has complete facilities to produce private mold designs at surprisingly low cost.

Royal

ROYAL MANUFACTURING COMPANY, INC. — PRESCOTT, ARIZONA

AVISCO* CELLOPHANE gives rich new sales appeal to printing

You get a matchless depth and brilliance of color when you print on Avisco cellophane.

For cellophane's jewel-like surface takes ink perfectly, sends shafts of light bouncing off to snare a shopper's eye and glamorize your product.

Colored inks take on new tone and richness, beautified as they are by cellophane's dazzling sheen. Printing is clearer, sharper, crisper.

Give rich, new sales appeal to *your* packaging. Specify Avisco cellophane when ordering from your converter.

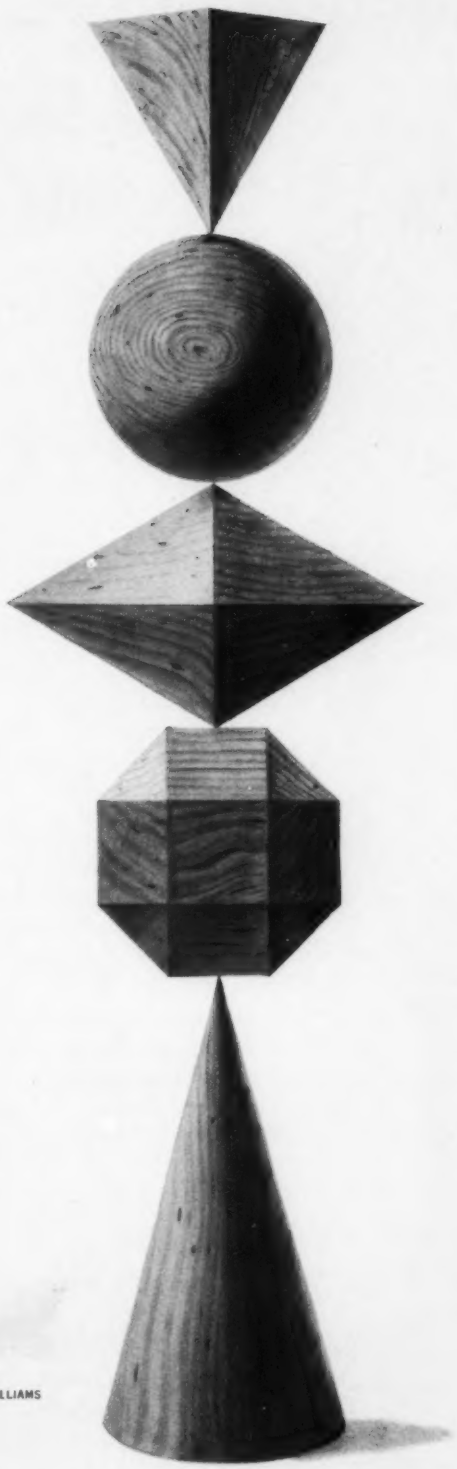
Just drop us a line or give us a call for the name of a reliable converter near your plant. We'd be pleased to help you GROW WITH AVISCO CELLOPHANE.

American Viscose Corporation
Film Division
1617 Pennsylvania Boulevard
Philadelphia 3

*Trademark of American Viscose Corporation

AVISCO
CELLOPHANE

Great Ideas of Western Man . . . ONE OF A SERIES



ARTIST: ARTHUR WILLIAMS

ADAM SMITH

on the source of wealth

It is the great
multiplication of the
productions of
all the different arts,
in consequence of
the division of labour,
which occasions, in
a well-governed society,
that universal
opulence which extends
itself to the lowest
ranks of the people.

(Wealth of Nations, 1776)

CONTAINER CORPORATION OF AMERICA

Packaged to Perfection by J. L. Clark

April Showers, Exquisite Powders

For more than 30 years, softly scented April Showers powder, produced by the Houbigant Sales Corporation of New York City, has been a national buy-word in providing cool comfort after bathing and throughout the day. From the beginning, satin-smooth April Showers, now available in a variety of economical sizes, has been packaged and sold in distinctive lithographed metal containers, custom-made by J. L. Clark Manufacturing Co.* Looking as bright and gay as springtime itself, and reflecting the excellence of the fine product within, these colorful packages clearly dominate any shelf on which they're displayed. Today as in 1926, this combination of a dependable product and quality lithographed metal container keeps April Showers selling at a steadily increasing rate, maintaining its leadership in a highly competitive field.

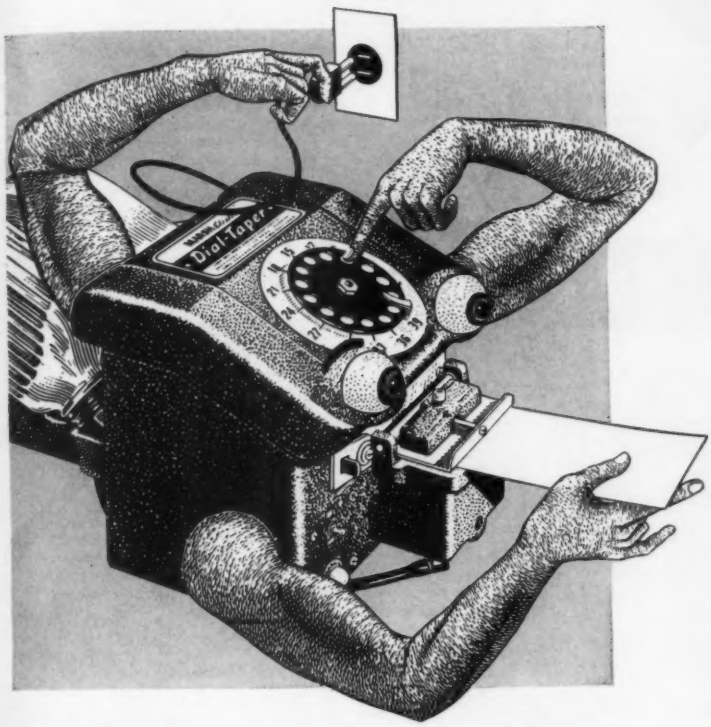
We hope this story suggests how J. L. Clark's creative metal packaging service has helped one manufacturer to nation-wide sales success. May we remind you that we are anxious to apply our 51 years of specialized experience to your container problem.

*Produced by Liberty Division of J. L. Clark Manufacturing Co., Lancaster, Pa., formerly Liberty Can & Sign Co.

J. L. CLARK
Lithographed Metal Containers

J. L. CLARK MANUFACTURING CO.
Home Office and Plant • Rockford, Illinois
Liberty Division Plant and Sales • Lancaster, Pa.
New York Sales Office • Chrysler Bldg., New York 17, N. Y.

MARSHIAN TAPER TELLS SECRET FOR SAVING 25% TAPE 50% TIME



Dial your tape electrically!

Your finger tip "Dials" the length of tape . . . automatically and electrically the DIAL-TAPER does all other operations . . . measures tape accurately, moistens tape with warm water, cuts off clean.

SAVES TAPE $ - Accurate tape lengths prevent waste.

SAVES TIME $ - One pass of the hands makes a neat, tight seal.

Do you want to see a Marsh Electric DIAL-TAPER in action taping your own cartons? Mail coupon below.

THE REAL TEST: HERE'S WHAT TYPICAL USERS SAY ABOUT MARSH DIAL-TAPER

"Our six DIAL-TAPERS give us a 25% saving in tape; 50% saving in operators' time."

"With the Dial-Taper we get neater, stronger-sealed packages. Tape sticks tight immediately. Won't slide. Sloppy packages eliminated."

"We get a better bond of tape, plus a uniform looking package, as all strips are the same length."

"The tape, being moistened with warm water, gives a quick strong seal, important during the cold weather season."

"The Dial-Taper has speeded up our taping operation 50%, with a saving of tape which will pay for the machine in six months."

MARSH *Electric*
Dial-Taper

The DIAL-TAPER is used for cartons of mixed sizes. Another model, the TWIN-TAPER, has both button and foot control for taping cartons of uniform sizes.

MARSH STENCIL MACHINE CO., 71 MARSH BLDG., BELLEVILLE, ILL., U. S. A.

FREE:

"The Marshian Story" of Electric Taping. Clip coupon to business letterhead with your name. MAIL TODAY!

Marsh Stencil Machine Co.
71 Marsh Bldg., Belleville, Illinois, U. S. A.

Individual _____ Title _____

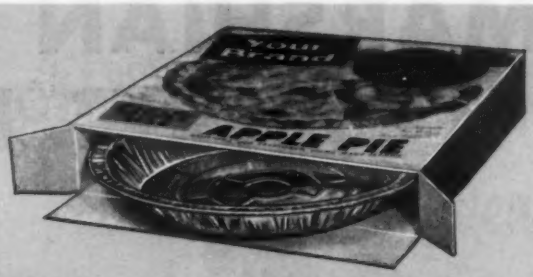
Firm _____

Street _____

City _____ Zone _____ State _____

DT-21

ROUND SPECIALTY PAN — Ideal for warmable coffee cakes and casserole dishes, ice cream specialties and other frozen bakery products. Appropriate for the dinner table.



FRUIT PIE PANS — Stronger construction, smoother rims, variety of gauges of foil. Top-in, bottom ratios, vertical depth and other volumetric patterns to adjust pie conformation and scaling weight relationship. For fresh or frozen fruit pies.

Showpieces for today's showcases

FOIL IS SPARKLING—
catches the buyer's attention.

FOIL IS WARMABLE—
preparation of convenience foods is quick and easy.

FOIL IS PROVEN—
stars in the great self-service market.

Cochran rigid foil containers are practical packages that command attention, offer convenience and give product protection. There's Cochran equipment to fit every closure operation. Let us show you why foil is the answer for your packaging program.

Write Cochran Foil Company, Incorporated, Dept. E-5, 1430 South 13th Street, Louisville 10, Kentucky.

POT PIE PANS — Range of sizes to fit any plate-holder. Fully curled edge, dimensional stability, extra bottom strength. Out of the plate-holder onto belt without fail. Can be produced in any desired quantity.

SECTIONAL TRAY
Smooth formed construction, full height dividers. Smooth "no snag" rim fully curled. Standard frozen dinner size.

OBLONG PANS
Ideal for pre-cooked frozen specialties, chicken choplets, barbeques, cobblers and salads. Standard frozen food package sizes.

Cochran
RIGID FOIL CONTAINERS

TART PANS • DEEP PIE AND CASSEROLE CONTAINERS • PIE PLATES • ROUND SPECIALTY CONTAINERS • OBLONG AND SQUARE SPECIALTY CONTAINERS • SECTIONAL TRAY

Cochran FOIL COMPANY
Incorporated

FACILITIES AS FLEXIBLE AS FOIL ITSELF

NOW! - More Than 200 PRINTED POLY BAGS PER MINUTE!

THE **Roto Bag-Holweg**

'PACEMAKER'

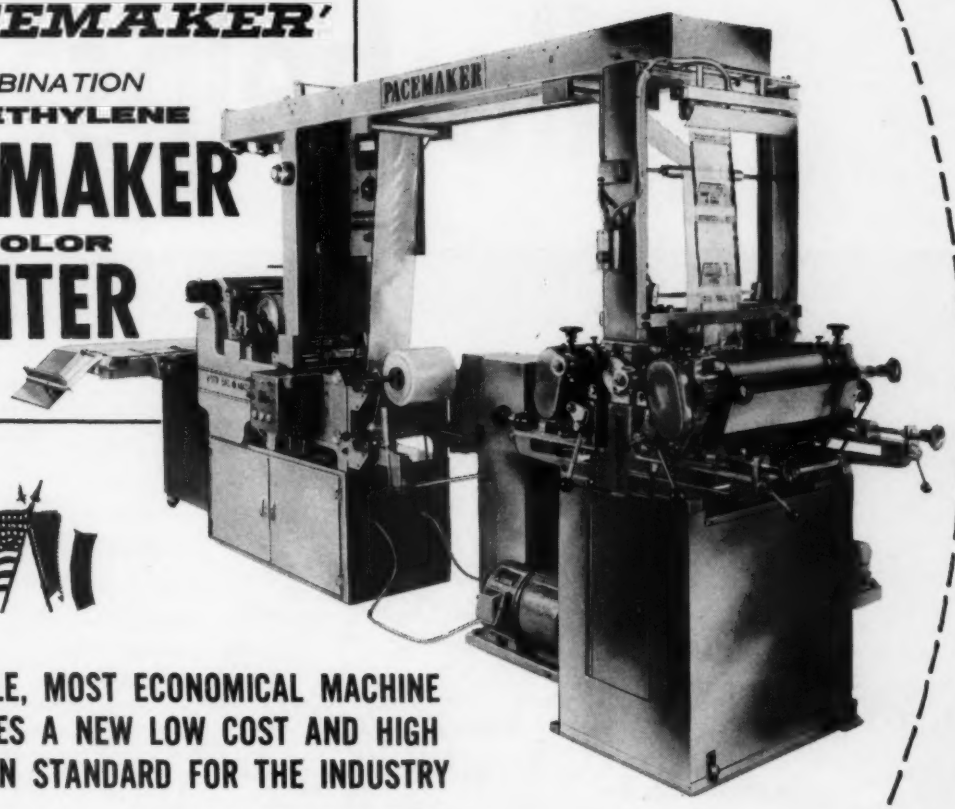
COMBINATION

POLYETHYLENE

BAGMAKER

AND **2-COLOR**

PRINTER



THIS SIMPLE, MOST ECONOMICAL MACHINE ESTABLISHES A NEW LOW COST AND HIGH PRODUCTION STANDARD FOR THE INDUSTRY

-Compels A Re-examination Of Polyethylene Printing And Bagmaking Techniques!

The 'Pacemaker' is a joint development of the engineering staffs of two firms intimately connected with the progress of the industry — C & A Holweg S.A., Strasbourg, France and Roto Bag Machine Corp., New York City. Designed as a complete unit, its components were brought to completion by the respective companies. The successful blending of the two functions combined with significant new engineering features results in the **first standard machine** to incorporate printing and bagmaking in one simple dependable operation.

SINGLE MACHINE ECONOMY — TWO MACHINE PERFORMANCE

The advantages of single machine operation are immediately apparent:

Single Operating Cost (Labor)
Lower Waste Factor
Less Materials Handling
Less Floor Space
and significantly, **Single Machine Capital Investment!**

SIMPLE DESIGN MEANS MAXIMUM ECONOMY AND QUALITY

Notwithstanding its low cost achievement, 'Pacemaker' tandem functions insure all the quality benefits both printing and bagwise that well-controlled separate operations normally provide.

'PACEMAKER'

IS THE **LOW COST** PRODUCER FOR THE **LOW PRICED** BAG MARKET

'Pacemaker' handles flat or gussetted tubing up to 12" wide and in the narrower widths two rolls simultaneously producing rates in excess of 200 printed bags per minute!

For additional information, call or write

Roto Bag-Holweg
DIVISION
CONAPAC CORPORATION
120 EAST 13th STREET, NEW YORK 3, N. Y.

CELLOPHANE IS A GROWING TREND
IN GROWING INDUSTRIES

Year after y
helps sell W

year CELLOPHANE Wilson quality

"Nothing can match Du Pont cellophane for giving a shopper the clearest possible look at our products. That's why we've used cellophane packaging for our fast-selling line of Certified meats for more than *25* years," reports Wilson & Company. Wilson's success is typical of packers everywhere who have switched to Du Pont cellophane packaging for their products. And that's why in 1954 alone, 70% of all transparent film used on packer-packaged meats was cellophane.

Cellophane packaging is now being used to profitable advantage in a wide variety of industries. Products in cellophane take on eye-catching luster and attract more shoppers. Best of all, cellophane means real economy—it handles easily, heat-seals fast . . . and allows more efficient machine operation.

E. I. du Pont de Nemours & Co. (Inc.), Film Department, Wilmington 98, Delaware.

ONLY DU PONT OFFERS YOU ALL THESE PACKAGING ADVANTAGES

Over 100 varieties of film technical experts to advise you consumer buying studies to guide you powerful national advertising to back you.

DU PONT
REG. U. S. PAT. OFF.
BETTER THINGS FOR BETTER LIVING
THROUGH CHEMISTRY

DU PONT PACKAGING FILMS

CELLOPHANE

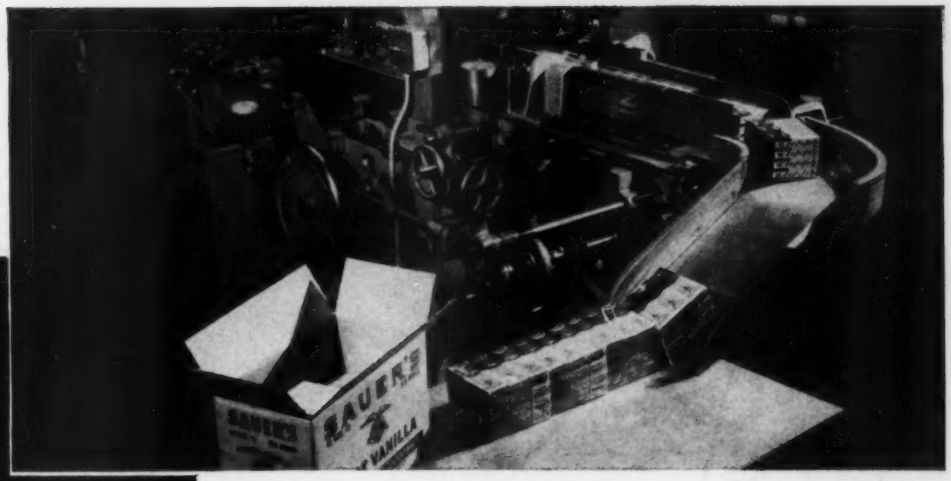
"MYLAR" POLYESTER FILM

ACETATE FILM

MYLAR®

A TOUGH FILM FOR TOUGH PACKAGING JOBS

SAUER'S
VANILLA
PURE LEMON EXTRACT
It is manufactured with the utmost care to supply the finest class of trade
Manufactured by THE E.F. SAUER COMPANY RICHMOND, VA.



Heavy-duty bundling problems solved with **MYLAR*** because it's clear and strong

Now for the first time automatic packaging is being done with clear Du Pont "Mylar" polyester film. The C. F. Sauer Co. of Richmond, Virginia, chose to bundle their line of flavors and extracts in "Mylar" for these very important reasons:

STRENGTH—"Mylar" is the strongest film known . . . won't tear, break, crack or become brittle . . . excellent where *weight* is the problem.

TRANSPARENCY—"Mylar" offers vivid clarity for immediate identification of the product to distributors, retailers, and shoppers.

DURABILITY—Products bundled in "Mylar" have unlimited shelf life . . . are protected against dirt, heat, and moisture.

STABILITY—"Mylar" retains its dimensions from -80° to 300°F.

It will pay you to investigate the advantages that bundling with "Mylar" can bring to your product. Contact your Du Pont representative, or converter of "Mylar" polyester film. Or mail the coupon for more information on this amazing new film.

**"Mylar" is Du Pont's registered trademark for its polyester film.*

DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

DU PONT
MYLAR®
POLYESTER FILM

E. I. du Pont de Nemours & Co. (Inc.)
Film Department, Room MP-5, Wilmington 98, Delaware.

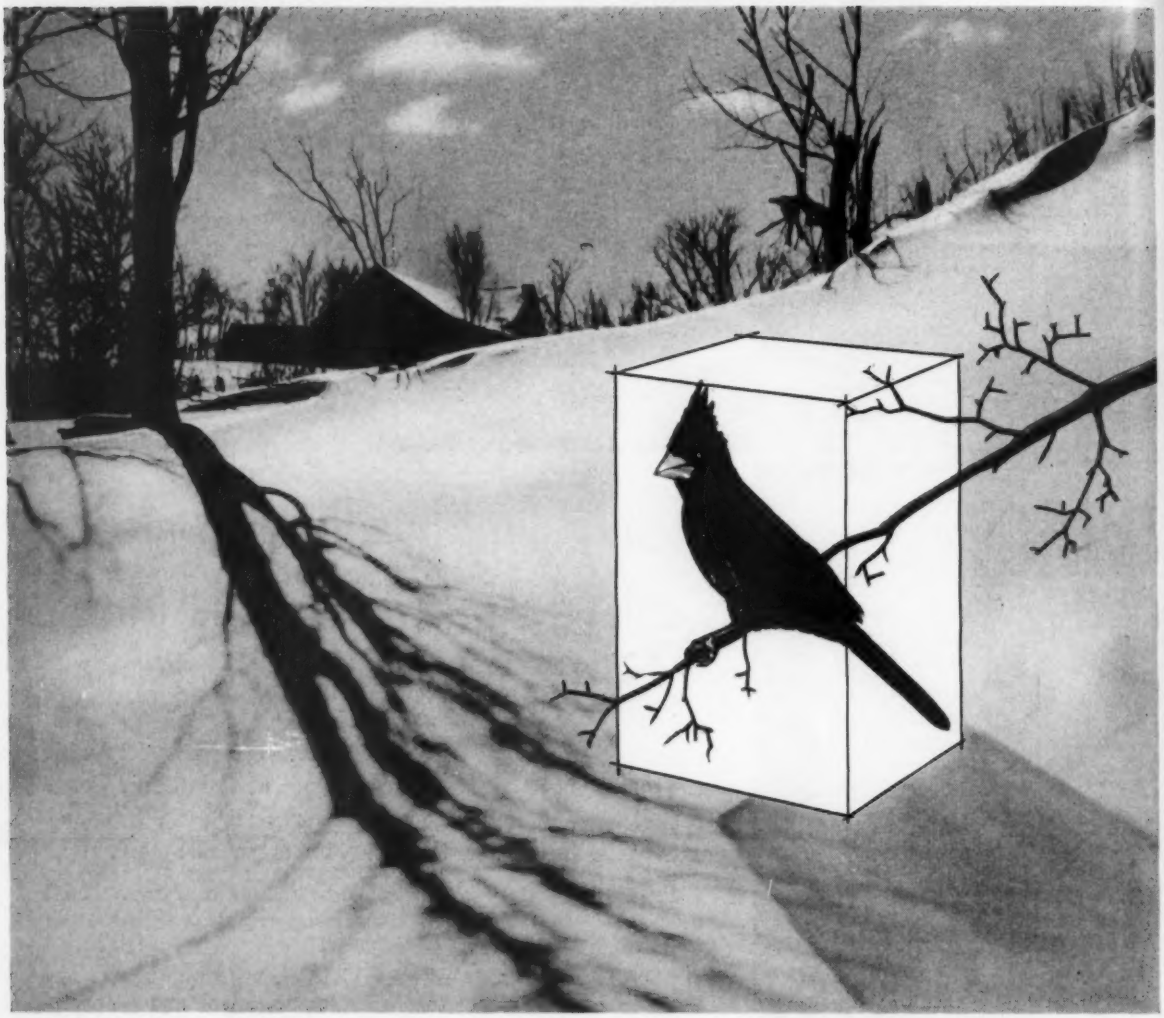
Please send me information on packaging uses of "Mylar" polyester film.

Name_____

Firm_____

Address_____

City_____ State_____



NO. 90 ULTRAGLOSS . . . the porcelain finish, high contrast BOXBOARD THAT MAKES ANY CARTON STAND OUT

FOR FIFTY YEARS 1906 1956

Ridgelo
CLAY COATED
REG. U.S. PAT. OFF.
BOXBOARDS

Write for Free Samples

#90 ULTRAGLOSS
(glazed)

•

#75 BRUSH FINISH

•

CUSTOM COATED

•

STANDARD COATED
(machine)

•

METALLIC COATED

•

POLYETHYLENE COATED

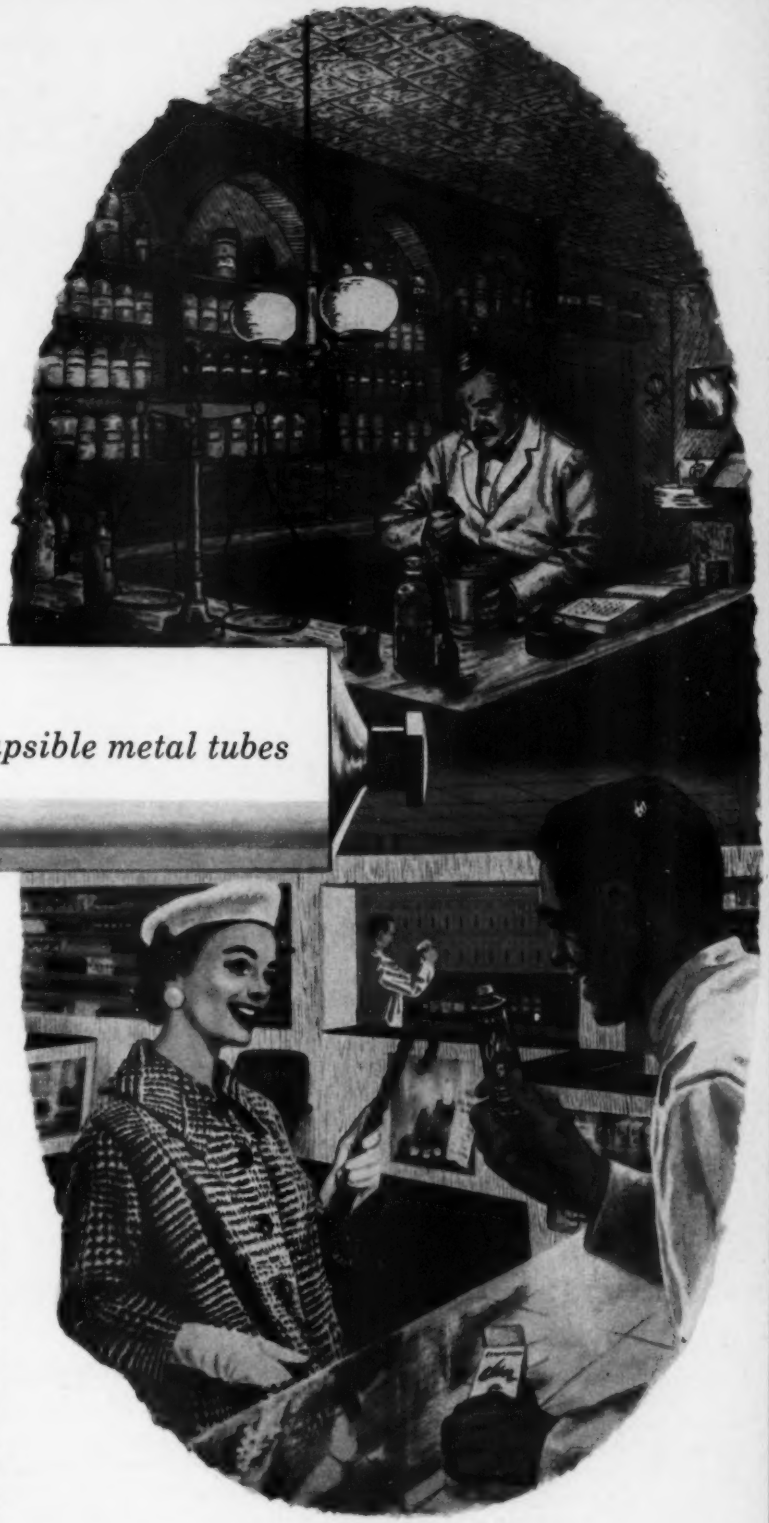
DOMINANCE! Impact! Distinction! These are the very real and vital qualities every manufacturer wants to give his packaged products for maximum *moveability* over the sales counter. And they are qualities *automatically* imparted to cartons—whatever their size—made of No. 90 Ultragloss. That's because its snow white surface acts like a built-in spotlight to attract attention, to really dramatize carton design and color. No. 90 Ultragloss' coating is compounded for the ultimate in brightness, is glazed for the ultimate in smoothness. So remarkable are its effects on sales that it offers an actual *economy* for manufacturers seeking leadership with such products as cosmetics, toiletries, and gift items.

LOWE PAPER COMPANY • Ridgefield, N. J.
An Independent Mill – Serving Industry Since 1906

Representatives: Detroit—Joseph P. Giroux • Los Angeles—Norman A. Buist
Philadelphia—Philip Rudolph & Son, Inc. • St. Louis—A. E. Kellogg

GONE

are the MORTAR and PESTLE



...largely because of collapsible metal tubes

The old apothecary shop, with its strange smells and gloomy interior, has virtually disappeared from the American scene. In their day, they served their customers well, no doubt. With mortar and pestle, the chemist of that bygone era compounded all manner of preparations for all the ills and aches the human race is heir to.

The march of progress in medicine and research has transformed the old apothecary shop into the modern pharmacy. And many of the salves and ointments tediously compounded by the apothecary have given way to life-saving miracle drugs that the pharmacist now delivers to the consumer in the perfect package—the collapsible metal tube.

The great pharmaceutical laboratories—Ciba, Dome, Geigy, Hoffmann-La Roche, Lederle, National Drug, Pfizer, Schering, U. S. Vitamin, Wallace & Tiernan, White Laboratories, recognize, too, the value of efficient and sanitary packaging. They use collapsible metal tubes—Peerless tubes. They, all of them, would tell you there are no finer tubes made anywhere in the world.

Peerless

PEERLESS TUBE COMPANY • BLOOMFIELD, NEW JERSEY

Catalin Styrene Adds a Sales-appealing Plus to Gift Packaging!

In great numbers, exquisitely designed stock containers — molded of CATALIN STYRENE, the gem of plastics—are joining manufacturers' sales staffs . . . and proving their worth!

Offering ample interior open space or compartmented tier-tray effects, they provide for generous packing. Manufacturers who previously depended upon single-piece retail sales, can now *wrap* multiple units into a one-package promotion — and surround the ensemble with irresistible gift appeal. Very few materials can vie with the beauty, color and crafted quality of CATALIN STYRENE. It is the *sales plus* packaging medium. Too, its low cost encourages maximum exploitation. Note also that re-use advantages play an exciting, highly important role. Cases molded of CATALIN STYRENE are structurally strong and most appropriately adaptable for continued service as jewelry chests, sewing boxes, cosmetic containers. And yes, when the occasion arises, the gift's recipient can instantly convert the "handled" unit shown above into a style-of-the-moment plastic handbag!

Packaging Containers featured are molded by Plastic Jewel Co., Inc., 1112 Brook Ave., Bronx 56, N. Y.

CATALIN CORPORATION OF AMERICA
ONE PARK AVENUE • NEW YORK 16, N. Y.

Catalin

In addition to Styrene and Polyethylene Molding and Extrusion Compounds, Catalin chemical products include a wide range of Urea, Phenolic, Cresylic, Resorcinol, Melamine and Styrene Resin formulations

Background for packaging

Notes, quotes and comments

How much does packaging cost? Most estimates of the national expenditure merely total up the value of containers, materials and machinery, and omit the cost of packaging-line labor and overhead. In England, *John E. Evan Cook*, president of the British Institute of Packaging, estimates that packaging absorbs at least 50% of the labor force in the consummer-goods industries and not less than that amount of factory space.

Research reaches farther into the future. Pillsbury Mills announces formation of a New Product Idea Department, which will be charged solely with developing "tomorrow's ideas" for pursuit by regular commercial development departments. In a company such as this, forward-looking packaging ideas will be developed along with the product.

Quantity tolerances usually accepted in the buying and selling of 10 different categories of packaging materials will be established by a current Packaging Institute poll of members. Average percentage limits on over-runs and under-runs will be listed. Why not a similar survey on *quality* and *dimension* tolerances?

Outstanding success of Marlboro's flip-top box has other cigarette makers flipping their own lids. Development of a lower-cost American machine and box to do the same job has everybody figuring. Philip Morris, which owns Marlboro, is already test marketing its Philip Morris brand in hard-box package. Liggett & Myers may be next to adopt such a package, for L&M Filters. R. J. Reynolds, American Tobacco and Brown & Williamson have placed orders for hard-box machinery. Looks like a packaging revolution, in a $4.7-billion industry.

New price hikes by producers of kraft paper and container board, coupled with price resistance on converted products, are bound to have the effect of forcing more paper converters into mergers with basic producers. The drive toward integration in the paper industry—from pulpwood to finished product in one company—is more intense than ever.

Census reports on converted flexible packaging production will go on a current monthly basis next year, providing year-to-year comparisons by months. Note that the full year report for 1955, just issued, shows this to be a $352-million industry, made up about half of bags, pouches, envelopes and such, and one-quarter of printed rolls and sheets. Why don't other package-supplying industries use this Bureau of Census reporting service?

Trend to watch in supermarkets is tendency to "dress up" certain departments to give them special character. Operators are concerned because big super-supers are taking on a monotonous look, with result that shoppers increasingly go to small neighborhood shops for candy, baked goods, etc. So supermarkets will fancy up these specialty departments, make them more "intimate." This is bound to have an effect on package design.

New ad series by Olin Film Division, aiming to show *how* packaging decisions are made, is a natural sequel to last year's campaign stressing importance ("A Packaging Decision Can Change the Course of a Busi-

ness"). Each of the full-page, four-color ads, again to run only in MODERN PACKAGING and *Time* Magazine will feature a leading package designer telling a package-change success story. *Note:* As evidence of executive interest in packaging, the first of Olin's "Packaging Decision" ads brought an unprecedented 15,000 requests for reprints.

Word from Washington is to watch out for a Federal Trade Commission crackdown on misbranding, short weights and slack fill, starting this summer.

Pinch in cellophane ought to be over by 1959. By that time additional capacity for all three producers—50 million pounds for Avisco, 35 million for Olin, 20 million for Du Pont—is scheduled to be in operation, making an industry total capacity of 490 million pounds per year.

Background for packaging

Significant to the conservation of pulpwood resources for packaging is the opening in Arkansas of The Crossett Co.'s new $16-million bleached food board mill. Using a special semi-chemical pulping process developed in Crossett's research laboratories, it is the first to utilize low-grade hardwoods, abundant in the South, in food board manufacture to supplement the dwindling supply of softwoods.

World market in packaging machinery is rapidly being built by West German makers. Despite pressing German domestic need for such machinery, concentration is on exports. Of the 1954 West German production of packaging machinery, amounting to $16.1 million, 71.3%, or $11.5 million worth, was exported. U. S., France and Great Britain each took around 10% of total German production.

Watch for big changes in cigar packaging after July 1. New law effective that date permits cigar makers to omit the familiar blue revenue stamp (although they must still pay tax). This means makers will not be limited as formerly to unit quantities in denominations of stamps issued —5, 10, 25 and 50 cigars. There'll be a rash of new odd-numbered pocket packs—two for 15 cents, three for a quarter, etc. *Next question:* Will distillers also be allowed to drop the hard-to-handle revenue stamp?

New recognition of the artistic value of packaging is coming with the first "50 Packages of the Year" Show to be sponsored by the American Institute of Graphic Arts in New York, probably in November. Announcement and call for entries will be made soon. Entries this year will be limited to folding cartons and shipping containers, judged as art only, but recognition by this top-flight design group will be worth striving for.

Vigorous defense of convenience food packaging comes from *Paul S. Willis*, president of Grocery Mfrs. of America. Based on GMA survey, he contends the "built-in kitchen services" provided by such products as frozen orange juice, baby foods and cake mixes have reduced rather than raised consumer cost. Two thirds of the drop in raw farm food prices since 1952 have been passed along to the consumer, he says.

Can industry is happy over gains in two relatively new fields: soft drinks and aerosols. Since start in 1953, approximately one billion cans have been consumed by carbonated beverages and annual use is now well over a half-billion. American Can sees big future for the new 16-oz. economy size aerosol can, predicts its use on more than 100 products this year will exceed 25 million units.

YOUR LABEL CAN BE *Your best salesman!*

LABELS by Package Products

* P. S. may solve your label problems

More firms are finding more uses for pressure sensitive labels every day. The ease of application on a variety of surfaces with no water, no heat and no waste makes for economical labeling and . . . . .

More firms are finding more uses for Package Products flexible package and label service every day.

* Pres-Stik by PACKAGE PRODUCTS

So Simple

Manual or motor driven dispenser for one hand operation. No heat, no water, no mess.

MANUAL OR MOTOR

PRESS THE LEVER

PICK UP LABEL

APPLY TO PACKAGE

FOR *Caulking* COMPOUND USE...

CLEVELAND CONTAINERS

This caulking gun cartridge is a spirally wound cylindrical tube, designed to provide the strength and rigidity necessary to store and dispense caulking compounds.

Made of high test chipboard, this container is lined with a greaseproof barrier to prevent leakage.

The top is of bright tin plate on which a firm, yet flexible plastic spout is fitted for dispensing the compound. Can be used with all makes of caulk guns.

The bottom metal insert cap, which is shipped separately, serves as the plunger which pushes the compound through the plastic spout. This cap may be furnished plain or embossed to identify the color of the caulk compound.

This container can be furnished with labels attached, or preprinted labels spiralled on, if desired.

Contact our nearest plant for further details!

INVESTIGATE THE
Complete Line
of CLEVELAND CONTAINERS

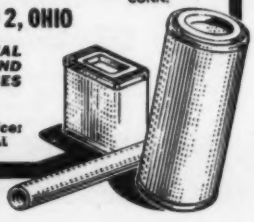
THE
CLEVELAND CONTAINER COMPANY
6201 BARBERTON AVE., CLEVELAND 2, OHIO

PLANTS AND SALES OFFICES: CLEVELAND, DETROIT, CHICAGO, MEMPHIS, LOS ANGELES, PLYMOUTH, WIS., JAMESBURG, N. J., OGDENSBURG, N.Y.
ABRASIVE DIVISION CLEVELAND

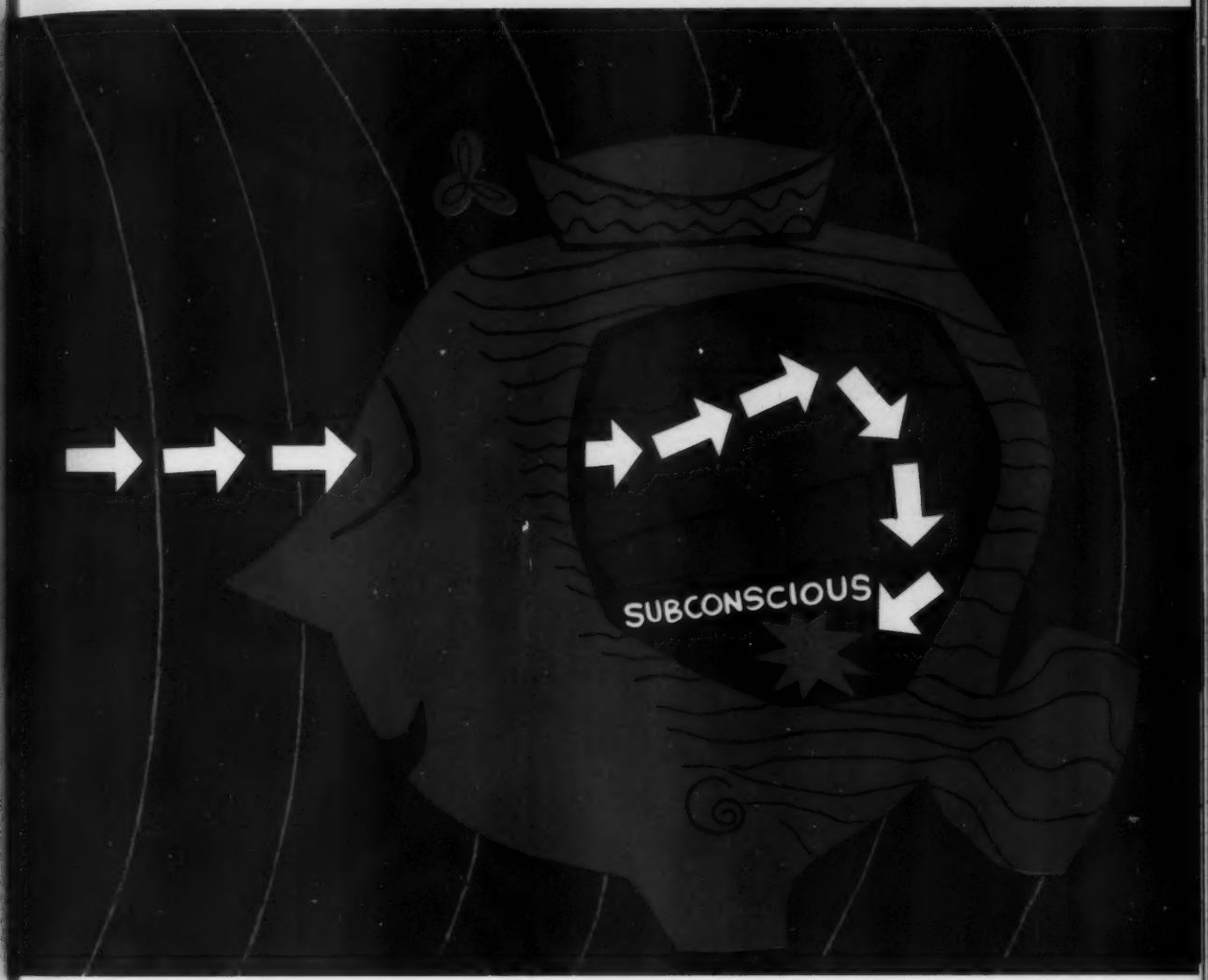
SALES OFFICES: NEW YORK CITY, WASHINGTON, D. C., ROCHESTER, N. Y., WEST HARTFORD, CONN.

• ALL-FIBRE CANS • COMBINATION METAL AND PAPER CANS • SPIRALLY WOUND TUBES AND CORES FOR ALL PURPOSES

CLEVELAND CONTAINER CANADA, LTD.
Plants & Sales Offices: TORONTO AND PRESCOTT, ONT.
Sales Office: MONTREAL



Impulse buying is psychological!



• • • and to create impulse sales, your food package must appeal instantly and favorably to a shopper's emotions—to her *subconscious* mind. Intensive market research proves that three basic elements of modern package design—when properly compounded—stimulate the shopper's imagination . . . clinch sales on the spot.

But modern package design is a science. To achieve a package that *sells on impulse* against all competition requires highly specialized knowledge and experience. Take advantage of this sales-proved package design service that Western Waxed Paper Division offers your food product . . . and watch your sales climb.

Increased Sales
. . . by Design!

CROWN ZELLERBACH CORPORATION • WESTERN WAXED PAPER DIVISION
SAN LEANDRO AND LOS ANGELES, CALIFORNIA; N. PORTLAND, OREGON

SALES SERVICE OFFICES: Chicago, Dallas, Denver, New York City, Salt Lake City, Seattle, Spokane

10014-C

USE NO HOOKS

HARD FACTS

–or subtle salesmanship

Labels are like a kit of tools—you use a hammer for driving nails, a finely made chisel to achieve delicate detail. Modern technology demands thousands of functional EVER READY labels giving information quickly and clearly.

Consumer product labeling is something else again. Here the label must lift the product out of a highly competitive group and give it the *pay-off push* across the counter.

EVER READY'S top-notch designers and technicians approach your label problem by studying your advertising, sales and promotional program. They know your label must integrate perfectly with *all* your efforts, and really express the *individual character* of your product. Subtle salesmanship, *where it counts most,* is a basic ingredient of each label designed and produced by EVER READY.

Let's have a go at *your* label. Those who use the more than *fifteen million labels we print each day* find there's something *special* about the services offered by EVER READY.

WITHOUT OBLIGATION, we'd like to send you: ☐ The Story of 8 Important Red-E-Stik Pressure Sensitive Applications ☐ The Ever Ready Label Idea Kit ☐ Samples.

EVER READY LABEL
CORPORATION
117-20 EAST 30TH STREET, NEW YORK 16, NEW YORK
Other offices in Chicago and Belleville, N. J.

Ever Ready Labels
Go places and
do things.

HARD FACTS

–or subtle salesmanship

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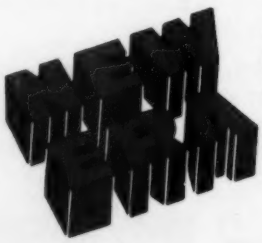
EVER READY LABEL
CORPORATION
117-20 EAST 30TH STREET · NEW YORK 18, NEW YORK
Other offices in Chicago and Belleville, N. J.

- Prints any number of colors in a single run
- Prints one or both sides at the same time
- Die cuts any size, any shape with male steel-rule dies
- Prints paper, board, silk, cotton, heat-seal, gummed, ungummed, or any type of label or tag material
- Slits, perforates, numbers, punches, eyelets, and patches reinforcements—*as it prints*
- Delivers finished product cut-off, rewound, or zig-zag folded
- Up to 7500 impressions per hour!

Write for free New Era Bulletin today!

These jobs from paper roll to finished product in one run:

LABELS—gummed, ungummed, heat-seal, silk, cotton.
TAGS—merchandise, shipping, manifold.
COUNTER DISPLAYS—up to 12" x 12".
BAG HEADERS—and other specialties, forms, and tickets.



Auxiliary equipment for Stringing, Knotting, Wiring, etc. available from Graeber Stringing & Wiring Machine Company, division of New Era Manufacturing Company.

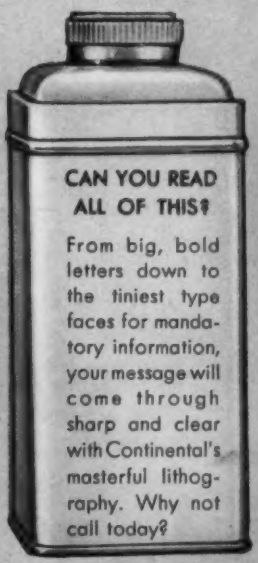
Manufacturing Co.
371 Eleventh Avenue,
Paterson, N. J.

your product gets

"FULL-CIRCLE BEAUTY"

with Continental's unsurpassed lithography

Consider this. When you put your product in a Continental can, there is no front or back to your package. The entire outer surface is available for decoration by Continental's master lithographers. Your designers are not limited to spot treatment. If a long, explanatory message is needed, you can put it right on the can without resorting to extra wrappings, tags or booklets. Continental cans never wear out their beauty—even after months in the bedroom or boudoir. Let protective, easy-to-use Continental cans give your product "Full-Circle Beauty."

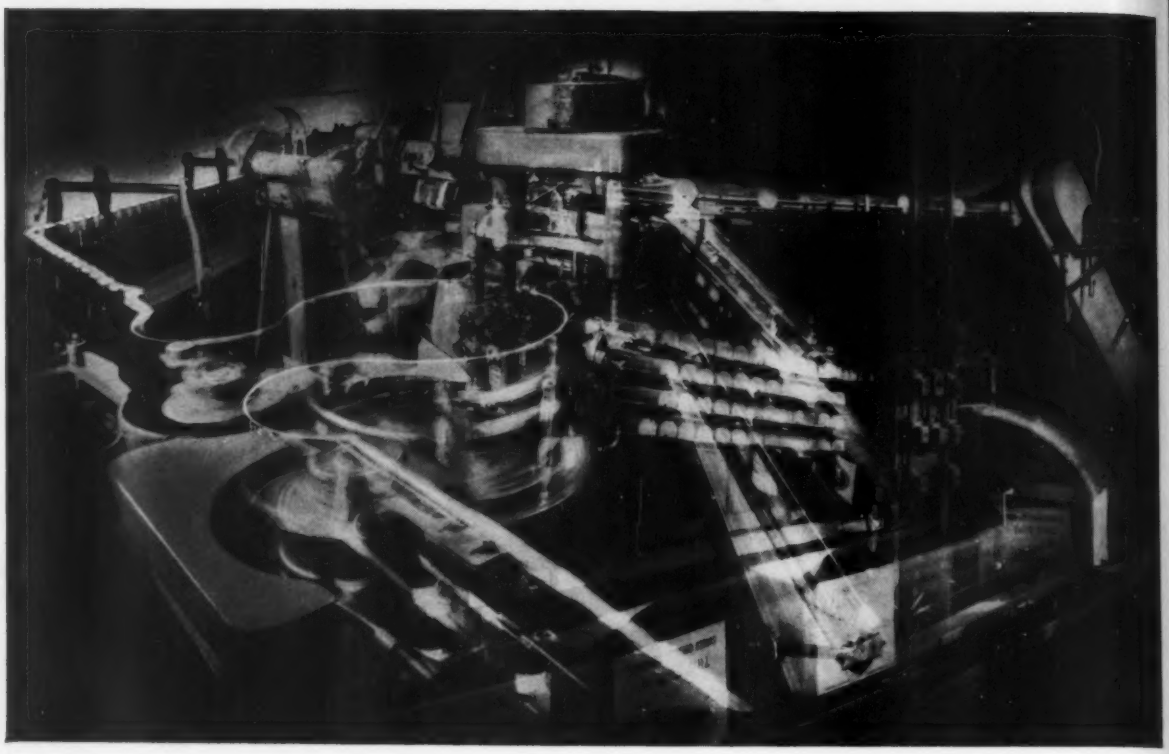


CAN YOU READ ALL OF THIS?

From big, bold letters down to the tiniest type faces for mandatory information, your message will come through sharp and clear with Continental's masterful lithography. Why not call today?

CONTINENTAL CAN COMPANY

Eastern Division: 100 E. 42nd St., New York 17
Central Division: 135 So. La Salle St., Chicago 3
Pacific Division: Russ Building, San Francisco 4



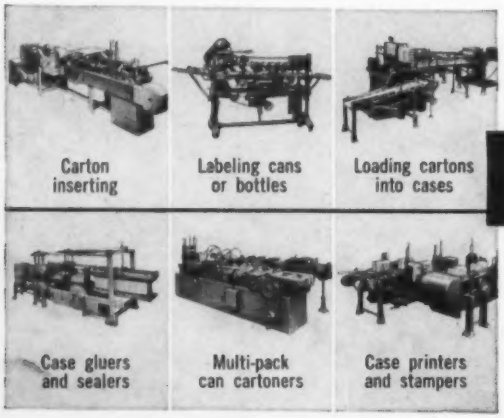
Most dependable motions in packaging

ABOVE: *Motion study of a Standard-Knapp 830 Bottle Packer and a Standard-Knapp Can Packer in operation. Fast, constant-flow packaging such as this is available from S-K for practically any type package or product.*

Model 830 Packers are available in models with 2-, 3-, 4-, 5- or 6-lanes and in a duplex type with 12-lanes. They receive bottles, cans or jars in a standing position, divide them into the required number of lanes, form the load pattern and then guide them into cases.

Standard-Knapp Can Packers perform the same functions, but handle the cans in a rolling position. These machines are available in a wide range of models to meet the most varied requirements.

Each motion of a Standard-Knapp Case Packer is meticulously engineered. Then it is delivered by mechanisms that combine highest quality metals, precision machining and assembly — and the priceless factor of long experience. For more information about our Case Packers and other packaging equipment, write Dept. G for our catalogs.



STANDARD-KNAPP

DIVISION OF EMHART MFG. CO.

PORTLAND, CONNECTICUT

Latin American Representatives: American Steel Export Co., New York, N. Y.

for Candymasters:

2 PACKAGING SUCCESS STORIES

by Cellu-Craft

"Walnut Hill" -- The use of a metallic ink in close register has always proved a problem for us. However, Cellu-Craft has done a high quality job at all times in producing this job exactly as we wanted it. It is a wrapper where close register of metallic and vibrant colors has given it eye appeal that has produced on-the-counter sales. I can truthfully say that the consistency of quality has made a great deal of difference in new markets where we have introduced this item.

"Double-Check" -- This was designed in conjunction with your art staff at Cellu-Craft. You have done a beautiful job of reproducing a "screaming red" and in printing a great deal of copy and small line illustrations on the wrapper. For a new item, I would consider the sales very, very good. The printing, of course, has made a big difference in our premium reply from the wrappers. This reply has been good and is due to fine reproduction and readability.

excerpts from letter by Mr. R. D. Nicolin, Vice President, Candymasters, Inc.

TO ASSURE A SUCCESSFUL PACKAGE FOR *YOUR* PRODUCT, call for a Cellu-Craft Packaging Consultant today! Or send us your product or present package for expert analysis. No obligation, of course.

CELLU-CRAFT

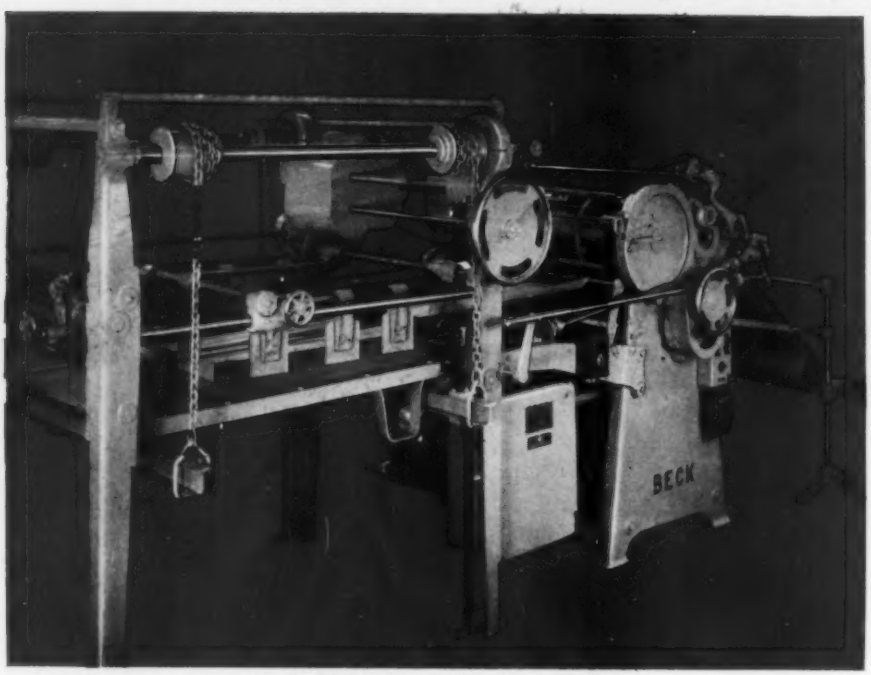
PRODUCTS CORPORATION

Designers, Converters and Color Printers of Flexible Packaging Materials

General Offices & Plant: **1401 4th AVE., NEW HYDE PARK, N. Y., PRIMROSE 5-8000** *Branch Plant:* **ADDISON, ILLINOIS** • *Sales Offices in principal cities.*

PRINTED CELLOPHANE • POLYETHYLENE • SARAN • VINYL, AND OTHERS • in ROLLS • BAGS • SHEETS • POUCHES • ENVELOPES

One of 74 may point the way for YOU



Beck Automatic Roll Sheet Cutter

Right now Beck machines are making cutting a part of production line operations in 74 DIFFERENT INDUSTRIAL APPLICATIONS.

They cut anything from the filmiest cellophane to the toughest boxboard exactly to specifications—even to printed register where desired.

Read over this list and put yourself in it. It can mean savings to you. Check the list again, maybe you'll find a currently unsuspected use. Then ask Beck about it.

PAPER and BOARD
FILMS
METALS
PLASTICS
TEXTILES
SPECIALS—
Baskets, Sponge Rubber, etc.

CHARLES BECK MACHINE CORPORATION
20 CHURCH ROAD, KING OF PRUSSIA, PENNA.

BECK

Automatic Roll Sheet Cutter • Razor Blade Slitter and Rewinder • Shear Cut Slitter Sheet-Printer for sample books • Engraved Roll Printer

Your product outshines its competition in

LusterBoard

The Boxboard of unparalleled distinction

Check these exclusive LusterBoard features:

- ★ Prints halftones better than most other printing surfaces.
- ★ Binds metallic and high gloss inks firmly.
- ★ Provides a sparkling, durable radiance that attracts customers.
- ★ Gives you a brilliant surface levelness never before available in this field.
- ★ Embosses and folds beautifully and safely.
- ★ Gives faster ink setting and drying time, thus making it easier to print and to handle.
- ★ Supplies a package protection equal to that of ordinary boxboards two to four points heavier.
- ★ Available in 14, 16, 18 and 20 points thickness.

Warren's STANDARD
Printing Papers

Investigate the many advantages of LusterBoard. For technical information, demonstration pieces and sample boxes, write to LusterBoard headquarters: *S. D. Warren Company, 89 Broad Street, Boston 1, Mass.*

WARREN'S LusterBoard

print better breadwraps...

(faster, too)

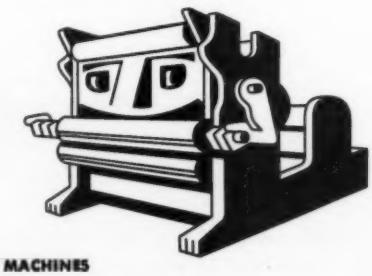
with Paper Converting's 5-color OIL INK LETTERPRESS

Breadwraps, frozen food overwraps, candy wrappers—any flexible sheets—print sharper, truer, and faster on Paper Converting's 5-color metal plate letterpress. Compact rotary design assures hair line register for full color packages—cuts makeready time and customer complaints. Top quality comes faster and easier, for side and rotary registration as well as form rollers are adjustable *while the press is running*. Pressmen have instant, complete control of all colors from the floor . . . no climbing and wasted time.

You'll benefit from the finer quality, higher production, and more accurate scheduling made possible by the exact, reliable performance of this press. Special features include slow-speed drive to all colors, easy mounting of fountain dividers and color separators, variable ductor roll dwell control, close fountain key spacing, automatic lubrication, and the maximum number of anti-friction bearings possible.

Want to know more? Sales manager or plant superintendent, you owe it to yourself to discover what this press can do for you. A card or a call will promptly bring full information about the 5-color oil ink letterpress, another Paper Converting "problem-solving" machine.

PAPER CONVERTING
Machine Company GREEN BAY 7, WISCONSIN



"PROBLEM-SOLVING" CONVERTING MACHINES

Last month we introduced Palegold "65" paper.

Now we proudly present—

New!

ARTCOTE

COPPER "19"

with true copper color
high lustre
full brilliance and life

Artcote now offers a new, high lustre copper with true copper color. Copper "19", available at no increase in price. Like Artcote's present copper paper, Artcote porcelain metallic coated papers are available in gold, silver, and copper finishes... gummed or ungummed, embossed or plain. Paper stock available in weight... cover stock and thin up to 15 point. All Artcote papers and cover stock accept halftone, four-color process, silk screen, gravure, offset lithographic, letterpress and lithographic printing.

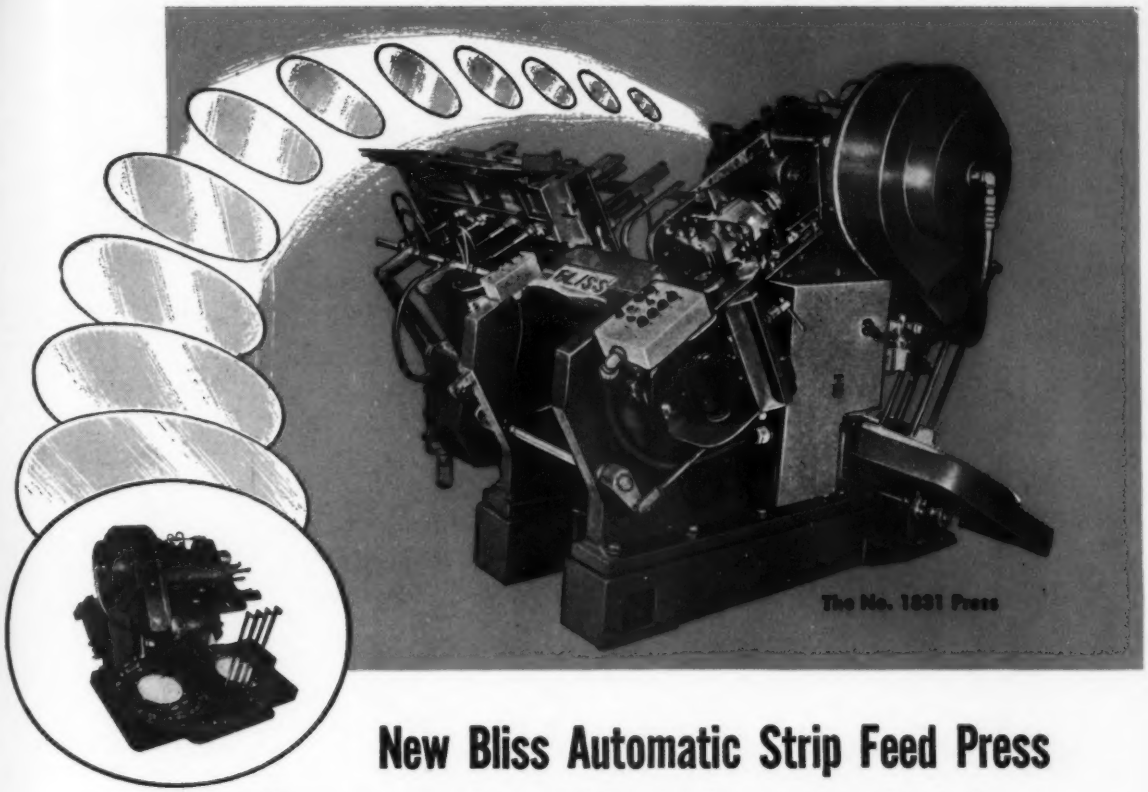
Write today for sample book.

Letterheads printing on Artcote paper and Gold Copper "19" coatings — No. 61 paper stock

ARTCOTE®

Available through your paper dealer or from—

ARTCOTE PAPERS, INC., IRVINGTON, NEW JERSEY



New Bliss Automatic Strip Feed Press will deliver more than 300 strokes per minute!

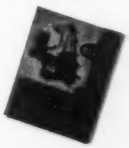
From the ground up, it's been engineered to slash maintenance needs and boost production speeds

You wanted speed in your strip feed presses—reliable speed! And here it is: to 300 strokes per minute (or more, depending upon can size), more than 18,000 strokes per hour all day long—without time-wasting stoppages for re-adjustment and repair.

One of the major features of the new Bliss press is its precision counter-balanced crank-shaft and feed bar crank which holds vibration to an almost irreducible minimum and thereby permits smooth, quiet operation at high speed.

Other features: combination disc friction clutch and brake—permits instant starting • feed bar is driven by crank instead of lever—and has adjustable fingers • a bigger bolster plate • no idle strokes between strips, if desired • slide stops instantly at top of stroke.

You'll want to know more about these developments. For complete details, write, wire or phone



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CAN MACHINERY DIVISION:
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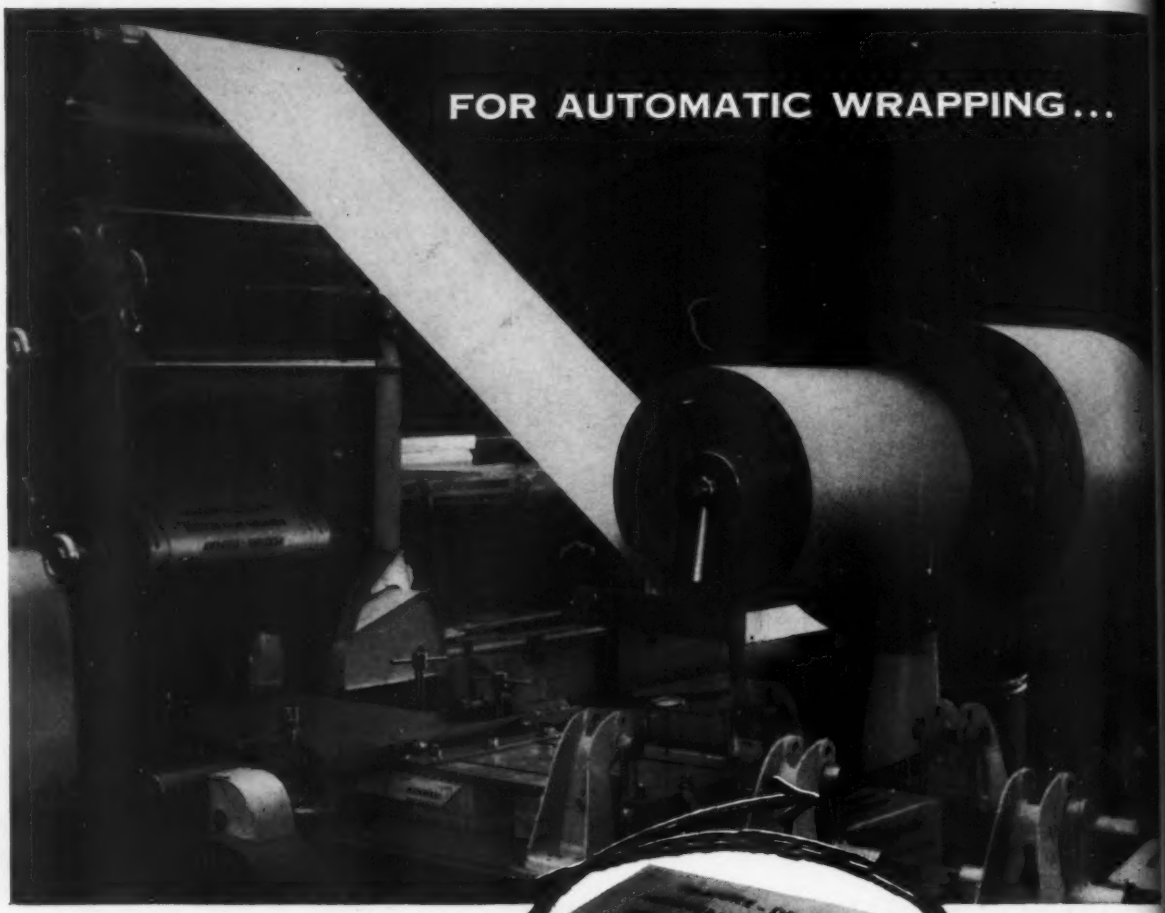
BLISS
SINCE 1857

is more than a name...*it's a guarantee*

BLISS CAN AND CONTAINER MAKING MACHINERY



Machine by Scandia

MENNEN USES INTERNATIONAL GATOR-HIDE

"wraps a world of products"

World's most widely used wrapping paper. Gator-Hide is rugged, tough. Especially built to take all automatic wrapping operations. Quality Controlled from forest to finished product.

If you have a problem in automatic wrapping, see International.

International Paper COMPANY
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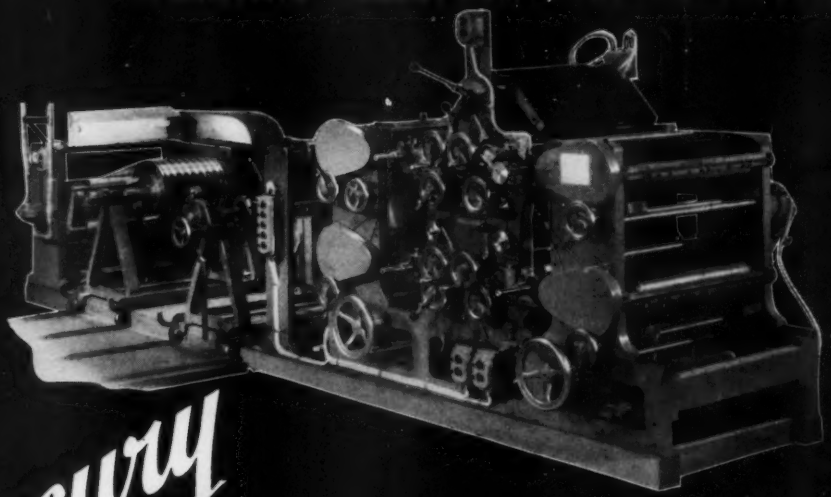
SINCE 1933

A Symbol of fine
CRAFTSMANSHIP

MERCURY MACHINES—PACESETTERS FOR THE FOLDING CARTON INDUSTRY

INTRODUCING AN IMPROVED CONCEPT OF PRINTING CELLOPHANE, FILM and PAPER



Mercury

NILSATON 4-COLOR PRINTING PRESS

PRESS ILLUSTRATED PROVIDES:
Printing width 22-inch maximum.

Printing repeat length, 12½-inch minimum, 24½-inch maximum.

Running register control at full press speed.

Complete with:
- Dryers
- Stock roll stand
- Rewinder
- All motors and controls

Available in a variety of sizes and number of colors.

We will be pleased to mail detailed information on the above printer, or have our representative visit with you at your convenience.

Revolutionary rubber plate printing press . . . for papers, films and foils. Letterpress quality with rubber plates.

Patented "Ink Mill" fountain and transfer permits use of high viscosity flexographic and letterpress type inks.

The first and only web fed press to reproduce the quality built into the rubber plate.

Printing to suit your customers' requirements on the lightest of transparent films, foils or papers.

Roll to roll at four to five hundred feet per minute. Available in a variety of sizes, with web slitters, sheeters or rewinders.

Profit Producing Machinery for Paper Convertors

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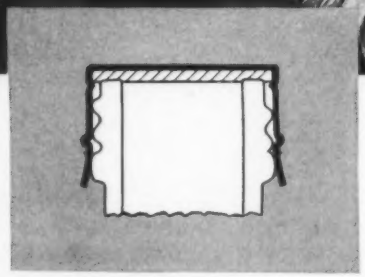
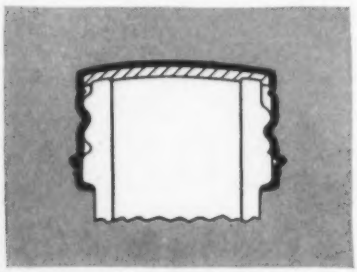


Before application. Straight-sided skirt of pure, nontoxic Alcoa Aluminum is placed on container and held under uniform, controlled pressure. Glass sealing surface is embedded into the liner, making a positive seal.



After application. After seal is made, rollers form the skirt to the exact contours of bottle threads. Since cap does not turn, liners are never scored. Exclusive burglar-alarm band remains intact until closure is twisted open.

When you seal with Alcoa Pilferproof Closures

When an Alcoa® Pilferproof Closure has been opened, you can tell instantly. An exclusive burglar-alarm band says: *This bottle has been opened!*

Alcoa Pilferproof Seals can be applied *only* by a sealing machine which Alcoa sells or leases *only* to reputable manufacturers. This machine (with capacities up to 400 bottles per minute) tailor-makes each closure to its individual bottle.

Drugs, toiletries, liquors—products of all kinds are protected from pilfering, counterfeiting, tampering by Alcoa Pilferproof Seals. Let us show you this, and their many other advantages. Call your Alcoa sales office.

Write for informative booklet *Alcoa Closures*. Aluminum Company of America, 1705-E Alcoa Building, Pittsburgh 19, Pennsylvania.

Your Guide to the Best in Aluminum Value

Rotogravure printed cellophane wrapper.

Rotogravure cellophane envelope.

for packages with a

Come hither look...

Rotogravure duplex cellophane bag.

Polyethylene-cellophane lustro printed vacuum pouch.

Polyethylene-cellophane lustro printed vacuum pouch.

...your MILPRINT man...First!

Meat display cases are more crowded than ever. That means your package has a harder selling job cut out for it, to attract and sell customers in a hurry!

Giving these silent salesmen of yours that "come hither" eye-appeal has been a Milprint specialty for over fifty years. Milprint offers you the widest variety of packaging materials and printing processes available anywhere plus the sure hand of Milprint experience in creating packaging that sells.

It's good business to call your Milprint man — *first!*

Printed Cellophane, Pliofilm, Polyethylene, Saran, Acetate, Glassine, Vitafilm, Foils, Laminations, Folding Cartons, Bags, Lithographed Displays, Printed Promotional Material.

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PACKAGING MATERIALS
LITHOGRAPHY & PRINTING

General Offices, Milwaukee, Wis. • Sales Offices in Principal Cities
This insert printed by Milprint, Inc.
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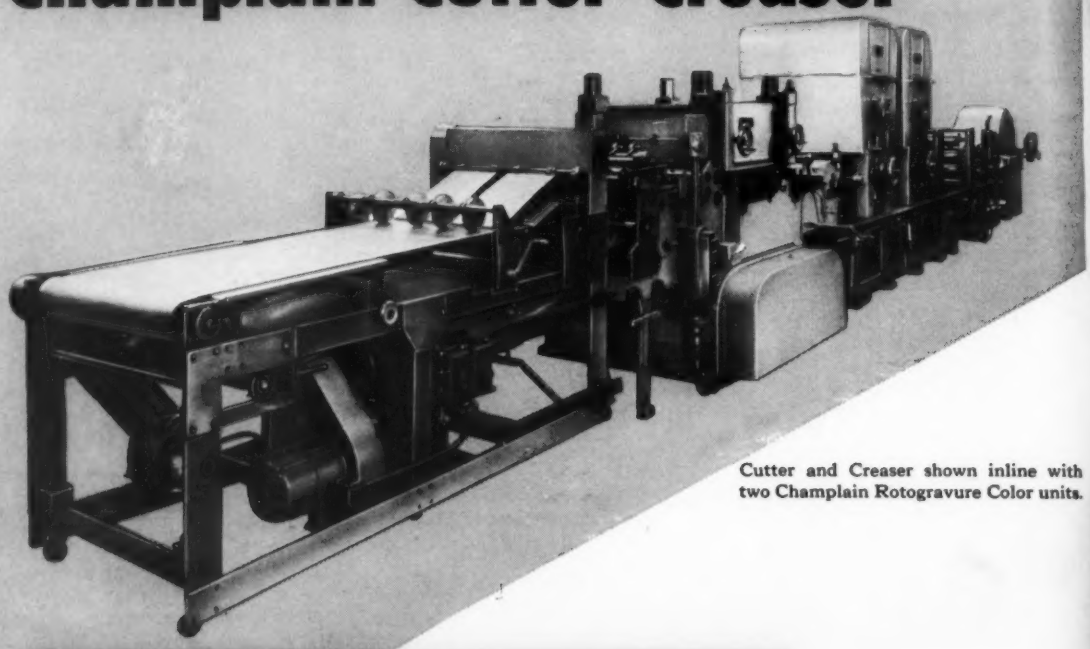
From this NEW roll-fed Champlain Cutter-Creaser



Cutter and Creaser shown inline with two Champlain Rotogravure Color units.

PLATEN PRESS QUALITY CARTONS

at better than cylinder press speeds

At last — a Cutter-Creaser that puts the manufacture of high quality but low-cost cartons well within the reach of *all* carton makers. In *one* pass, it cuts, creases, and automatically strips cartons from a continuous web — and brings to the carton manufacturer all these PLUS advantages:

- **INCREASED PRODUCTION RATE** . . . 7,500 to 10,500 impressions per hour.
- **MAXIMUM QUALITY** . . . the high quality of platen press cutting and creasing — at better than cylinder press speeds.
- **THOROUGH AUTOMATIC STRIPPING** . . . all intricate internal and interlocked scrap is stripped and carried away *automatically*.
- **LOW DIE COST** . . . with inexpensive steel rule and block or jig dies.
- **CONSISTENT ACCURACY** . . . patented intermittent feed insures uniform accuracy, even at highest speeds.
- **MINIMUM DOWN TIME** . . . changing of dies and make-ready is only a matter of minutes.

By itself, this new Cutter-Creaser has no equal. But when used *inline* — with rotary printing equipment — you gain not only the advantages of the Cutter-Creaser but *all* these *additional* advantages:

- **ABSOLUTE MINIMUM HANDLING OF STOCK** . . . "once through the press" principle means no carting and storage between Multi-color Printing, Lacquering, Die-Cutting and Stripping.
- **IMMEDIATE INSPECTION OF FINISHED CARTONS** . . . from roll stock to finished cartons takes only a few seconds.
- **ACCURATE REGISTER** . . . quick, one-pass operation of all inline equipment allows no time for change in character of stock.
- **MINIMUM SET-UP TIME** . . . no die impression needed for printing register—dies and plates are pre-matched.

Champlain &c

Champlain manufactures a complete line of rotogravure, flexography, rotary letterpress and allied equipment for packaging and specialty printing.

Write today for catalog of Champlain press equipment and full information on the Champlain Cutter-Creaser Champlain Company, Inc., 88 Llewellyn Avenue, Bloomfield, N. J. Chicago Office: 520 N. Michigan Avenue, Chicago 11, Ill.

1881 - 1956

Milestones Along Our Seventy-Five Years

1905—*This was our twenty-fourth year. We were in our own building in what is now "downtown" Evansville. Production had grown to support several batteries of presses such as shown here. We had become a major employer in our area.*

1949—*This was our sixty-eighth year. Our new plant served with our own railroad spur, with ample parking provisions for our hundreds of fellow workers now housed all production facilities for three important manufacturing divisions.*

Our new plant in 1949 was an important milestone for us but by no means a terminal point. With automation, with new precision facilities for mass production, with new metals and methods for tooling, with the new ideas of aggressive young technical minds, our plant today, in 1956 as a daily routine, achieves quality standards never before compatible with high volume production of highly competitive plastic and metal screw caps. We invite an opportunity to apply these values to your requirements.

America's First Metal Closure

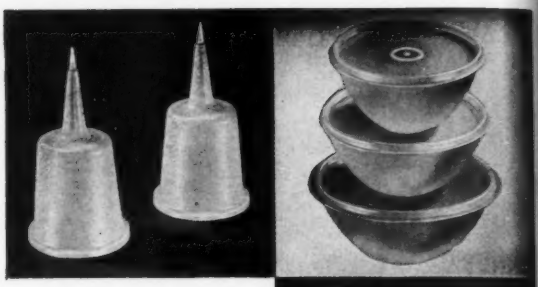
1881 - 1956

SEVENTY FIVE YEARS "YOUNG"

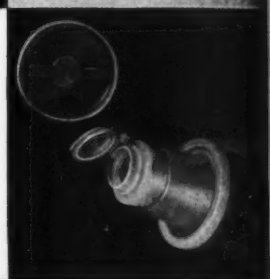
BERNARDIN

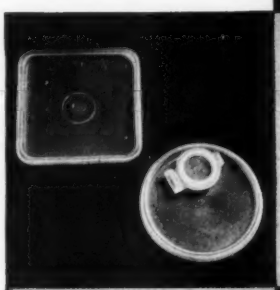
BOTTLE CAP COMPANY, Inc.

Evansville, Indiana



NOBODY HAS AS MUCH EXPERIENCE AT MOLDING POLYETHYLENE AS TUPPER!





Tupper Seals are air and liquid-tight flexible covers. The famous Pour All and Per Top covers are designed for easy dispensing. They are made in sizes to fit all Tupperware containers.

When equipped with Tupper Seals, Tupper Canisters, Sauce Dishes, Wonder Bowls, Cereal Bowls and Funnels in various sizes are the most versatile reusable containers you have ever seen.

The logical molder for you to consult regarding that product or package of yours which is to be made of polyethylene is Tupper. Tupper has done more than any other molder to make molded polyethylene a practical reality.

Aside from having designed, patented, and promoted successful seals, closures, and dispensers for polyethylene containers, the Tupper Corporation has vast experience in *every phase* of polyethylene packaging and polyethylene injection molding. This experience will be of major importance in improving your product, in reducing your costs, when Tupper goes to work for you.

Tupper's combination of experience, technical ingenuity, and the most modern equipment is at your service for the custom molding of your product in polyethylene. You can do no better than the best ... and the best at molding polyethylene is Tupper!

TUPPER!
TRADE MARK

TUPPER PRODUCTS ARE FULLY PROTECTED

About 150 United States and foreign patents and patents applied for, plus numerous trademarks and copyrights, cover the design and manufacture of the various types of Tupper Seals and other Tupper Products. Unauthorized manufacture of items covered by Tupper patents will subject infringers to prosecution.

TUPPER CORPORATION

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Address all communications to: Dept. MP-5

There's a BBD flexographic ink for every cellophane printing need

EXCELLOPAKE "400 X-TRA"—Multi-purpose universal ink with exclusive X-TRA features. Use on every standard type of cellophane (polyethylene, foil, glassine and paper too) for X-TRA whiteness and opacity... X-TRA strong adhesion... X-TRA block and humidity resistance... X-TRA heat resistance... X-TRA moisture and low-temperature resistance... X-TRA mileage on the press.

EXCELLOBRITE—High-gloss ink for face-printing semi-moistureproof and moistureproof cellophanes. Dries to a glossy, lustrous finish that matches the film's own sparkle. Lays smooth... prints clean and sharp... is highly scratch-resistant and flake-proof.

THERMOFAST—Heat-resistant ink for printing cellophane that will be heat-sealed over printed areas. Does not smear nor pick off when exposed to sealing irons... will not block when printed areas come into face-to-face contact under sealing jaws.

EXCELLOTEX—100% pigment ink for printing Saran-coated cellophanes. Has excellent adhesion and flexibility... good light-and-bleed fastness... is color-strong and highly opaque. Dries to a nice glossy finish... never flat or dull.

No matter what type of cellophane you print... no matter what its end use—you'll do better with one of these four BBD cellophane inks in the fountain.

BBD's cellophane inks—"400 Series" Excellopake, Excellobrite, Thermofast and Excellotex—are all time-tested and time-proved... will give the same excellent results on all makes of cellophane, made here or abroad, and on all types of flexographic press, with smooth or metered inking rolls.

What's more, when you standardize on these BBD inks, you get a quality-controlled product that helps you do a better job... consistently. Every can of BBD ink is checked and double-checked before it leaves our plant, assurance that it meets your standard for color strength and opacity ... adhesion... bleedproofness... fineness of grind... and all other qualities that affect its printability and end-use suitability.

For more information about any of these BBD inks—and the service of a "shirt-sleeved" BBD flexographic ink specialist—contact our nearest office or write direct to *Bensing Bros. & Deeney, 3301 Hunting Park Avenue, Philadelphia 29, Pa.*

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THE CUSTOM ENGINEERING, DEPENDABILITY AND ECONOMY OF

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AUTOMATIC PACKAGING

A Packomatic machine sends the "twenty-mule team" on its way faster . . .

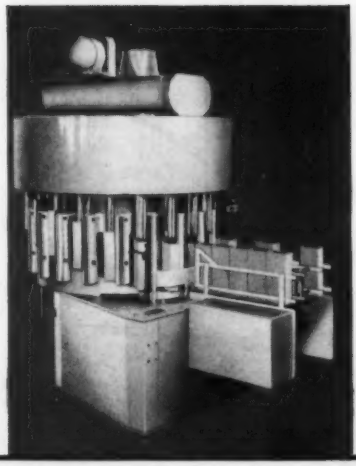
At Pacific Coast Borax Company, the Telescoping Volumetric Filler automatically measures 8 and 16 ounces of "Boraxo" into metal containers at the rate of 120 units per minute.

If you're a manufacturer of hard-to-handle dry products, write us about the Packomatic TVF and our dustless method of filling cartons or cans.

In fact, if *yours* is a problem of packaging — whatever the type, whatever your equipment budget — there's a Packomatic machine to save you time and money.

TELESCOPING VOLUMETRIC FILLER

A high-speed production machine, the TVF may be factory customized to filll up to 300 units per minute—round or rectangular cans or cartons. Its operation is practically dustless when handling such difficult products as insecticides, pancake flour, caustic soda, cleansers, detergents and soap powders. Phone collect, or write for literature about the economy, accuracy and speed of the PACKOMATIC TVF.



Other PACKOMATIC machines include the Bale Sealer — Case Sealers — Opener-Loaders — Case Imprinters — Telescoping Volumetric Filler — Packer-Gluers. Units available, semi-automatic or fully-automatic depending on your needs.

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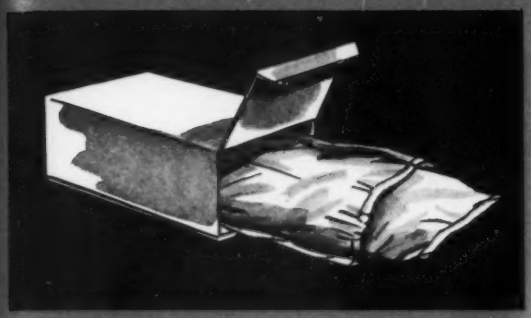

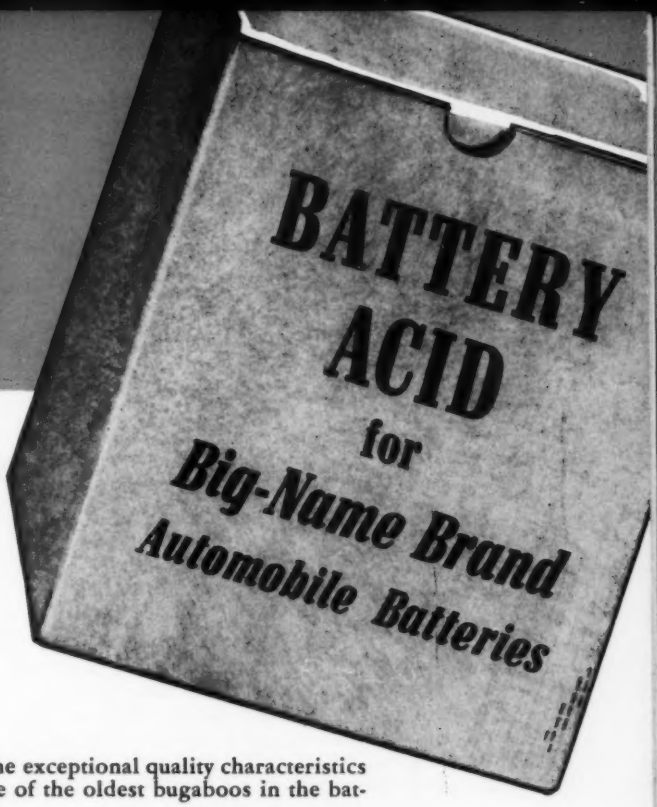

how come a BOX *of* ACID?
the answer is . . .

IN THE BAG!

REVOLUTIONARY—that's the only adequate word for this new packaging idea. It's a case where sharp thinking by packaging and production men—plus, we're proud to say, the exceptional quality characteristics of DURETHENE Polyethylene Film—has licked one of the oldest bugaboos in the battery business.

For years, everyone from the manufacturer to the gas station man has been plagued by an expensive nuisance: the weakening or loss of the electrolyte between battery production and actual use in a new car or as a replacement. No battery maker could find the right answer.

It's all different now—because henceforth leading batteries will be shipped *dry*. And the acid? Why, *that* goes along in a fibre box! Of course, the secret is inside; two sealed bag liners made of DURETHENE Polyethylene Film protect the electrolyte from spilling, leaking, evaporation or deterioration in any way. It's easy to pour the fluid into the battery at the moment it's ready for use.

Polyethylene is inert to virtually every acid and to most other chemicals, too—is moisture proof—seals surely. And if, as major battery producers have done, you specify DURETHENE Polyethylene Film, it's the toughest, strongest you can get, made in modern plants according to rigid gauge-controlled standards for weight, thickness and freedom from imperfections.

Have you checked up on what versatile DURETHENE Polyethylene Film can do for your *product, both in protection and marketing plusses? Write us about your product, and any special problems you have; chances are we can make practical suggestions.*

Durethene

THE POLYETHYLENE FILM
WITH THE TWO BIG QUALITY PLUSSES...
available in bags and sheets from leading Converters everywhere

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. . . in efficiency
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The Model 618 AF is a remarkably compact slitter and rewinder, embodying advanced design that is typical of the new, modern machines produced by the Dusenbery Company. The prime motive in all Dusenbery development is to secure maximum production efficiently and economically.

ADVANTAGES

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- . . . Holds inventory on various widths to a minimum, thus eliminating shelf spoilage.
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SPECIFICATIONS

9″ MAXIMUM REWIND DIAMETER
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18″ SPECIAL SUPPLY ROLL DIAMETER
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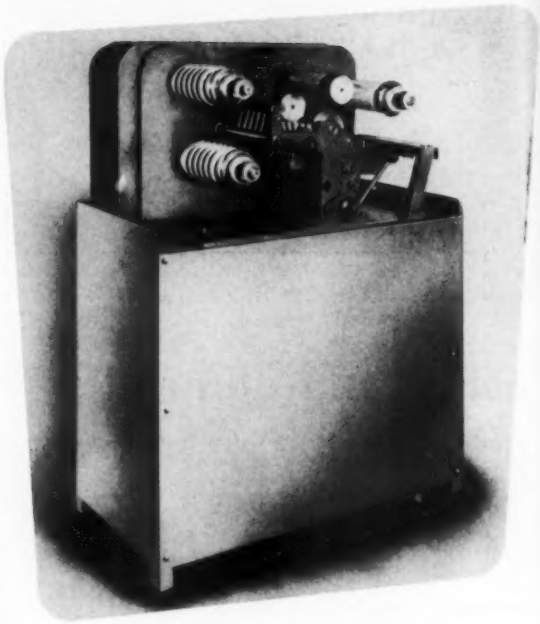

DUSENBERY
SLITTER AND REWINDER
MODEL 618 AF

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for **PRESSURE-SENSITIVE**

CELLOPHANE

ACETATE **MYLAR**

PAPER **CLOTH**

Can be used for non-pressure sensitive materials as well.

MANUFACTURERS OF: SLITTERS, WINDERS, CONSTANT TENSION UNWINDERS, KNIVES, LEVERS, SLEEVES.

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SPECIAL CONVERTING EQUIPMENT DESIGNED TO MEET YOUR PRODUCTION PROBLEMS

Scraping bottom for design ideas?

LET MARYLAND GLASS DESIGN

A BLUE OR FLINT GLASS CONTAINER FOR YOUR EXCLUSIVE USE

Sure, we make bottles and jars. But, more important to you, we design them. Our creative staff has the experience, the skill, the imagination to help you successfully redesign your old package or develop a new one. We've proved this many times.

Now we would like to prove to you that we can design a container that will sell your product. If you have a design problem, get in touch with us. No obligation, of course. Maryland Glass Corp., 2147-53 Wicomico St., Baltimore 30, Md.

PACK TO ATTRACT IN

MARYLAND GLASS

BLUE OR FLINT JARS AND BOTTLES

STOCK DESIGNS—A variety in blue or flint glass and a complete range of sizes is ready for immediate shipment.

STEIGERWALD

SENSI-STICK

LABELS

Pressure Sensitive

NO GLUE!

WATER!

Easy as 1, 2 to Apply!

NO CLEANUP!

PERMANENT OR REMOVABLE

Easy to Apply . . . Sure to Stick!

Gone is the glue pot! Gone is water! Steigerwald Sensi-Stick pressure sensitive labels eliminate forever old-fashioned start-up and clean-up labeling machine jobs.

Sensi-Stick simplifies labeling to a 1, 2—pick and stick quick way—Individual labels or Dispenser automatically feeds individual labels on a tape ready for rapid application.

Economical — Faster
Better for all surfaces

Steigerwald Sensi-Stick labels hold securely on all surfaces —won't buckle, curl or rub off even where others fail and nothing else will hold—choice of permanent or easy-to-take-off, surface safe adhesives.

Beautiful designs

Reproduce your present label just as it is on Sensi-Stick or consider a new design with a choice of gold or silver foil; embossed; lustrous papers and sparkling inks to add an extra note of quality to your product. Use Sensi-Stick to show you the way to the world's fastest hand labeling operation.

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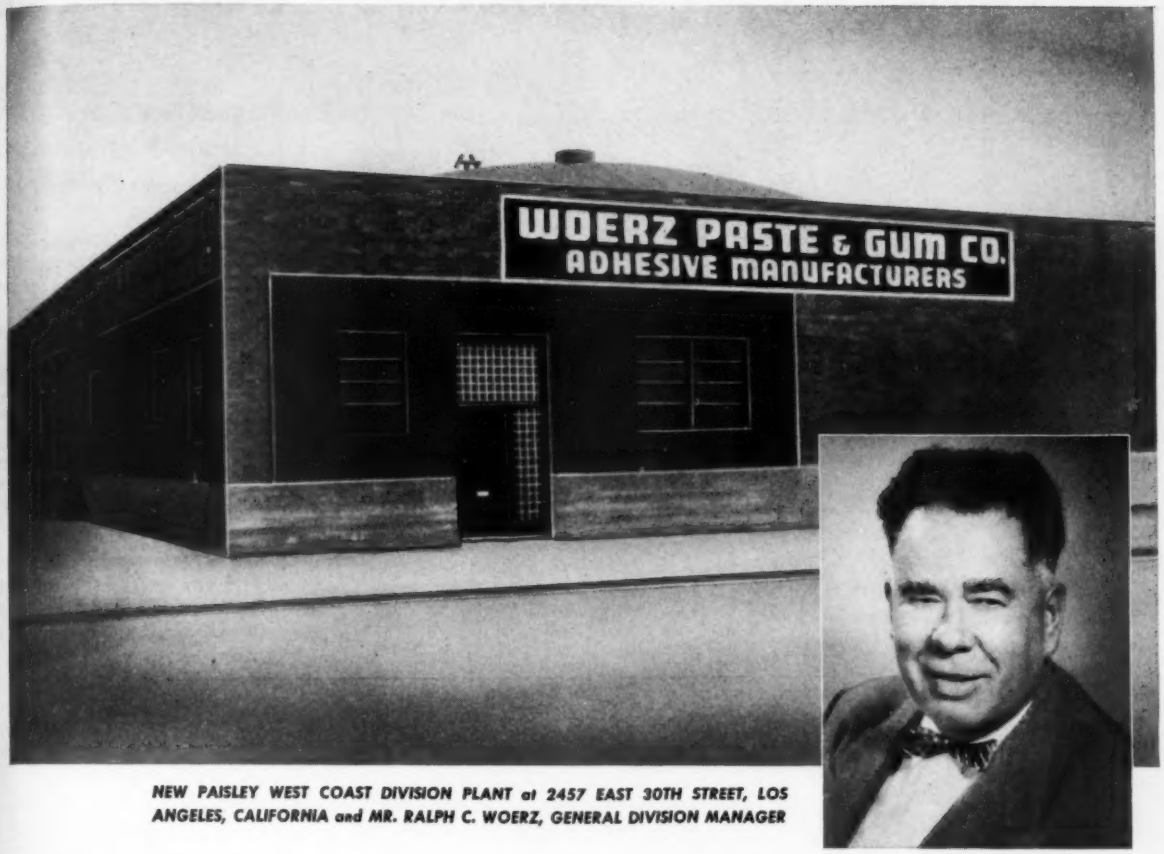


NEW PAISLEY WEST COAST DIVISION PLANT at 2457 EAST 30TH STREET, LOS ANGELES, CALIFORNIA and MR. RALPH C. WOERZ, GENERAL DIVISION MANAGER

This Los Angeles Plant Now Produces Paisley Scientific Adhesives

PAISLEY Scientific Adhesive Service is now nation-wide! Recent affiliation with Woerz Paste and Gum Company of Los Angeles firmly fixes the Paisley line on the Pacific Coast. Under the capable direction of Mr. Ralph C. Woerz, quick progress is being made in the expansion and improvement of local sales, manufacturing and warehousing facilities.

West Coast users of Adhesives and Resins can expect new speed and efficiency in Paisley Scientific Service. Now, all the resources and research of the extensive Paisley-Morningstar organization are made available to you locally.

Whatever the nature of your Adhesive problem, *"Put it up to Paisley."* Let our highly skilled scientific staff help you improve your Adhesive operations. Paisley Products Inc. *Plants at:* New York • Chicago • St. Louis • Los Angeles • San Francisco. (Offices in all principal cities).

GET VALUABLE FREE CONSULTING SERVICE

The "Paisley Adhesive Operation Data Sheet" provides a convenient, sure-fire means towards getting the ONE best and most economical and efficient Adhesive for any specific bonding operation. Write for a copy now. Return it with all information asked for. The nearest Paisley Laboratory will gladly analyze your needs and make specific recommendation. There's no obligation.

SEE US AT BOOTH NO. 225, WESTERN PACKAGING SHOW, JULY 10—12

Paisley® SCIENTIFIC ADHESIVE SERVICE

A MORNINGSTAR, NICOL, INC. SUBSIDIARY

MAIL THE COUPON FOR FREE CATALOG

PAISLEY PRODUCTS INC.,
630 W. 51st Street, New York 19, N. Y.

Gentlemen:

Send me your Adhesive Operation Data Sheet and catalog of your product line.

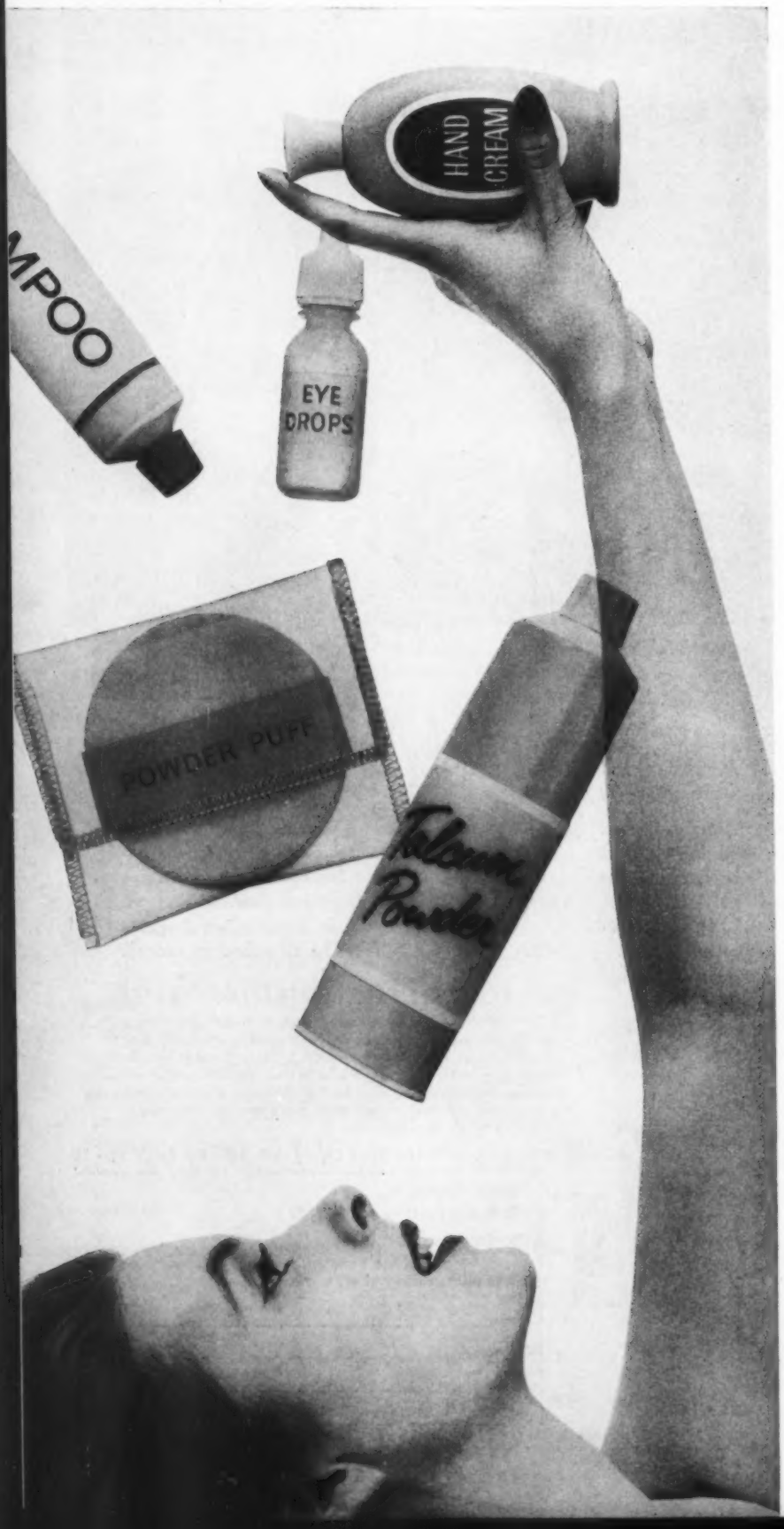
Name_____

Company_____

Address_____

City_____ Zone____ State_____

Why plastic packages sell more dru



Polyethylene containers contribute new beauty, new convenience, new safety!

In packaging drugs and cosmetics, no trend has been so far-reaching as the trend to polyethylene.

Today this versatile plastic is giving hundreds of drug and cosmetic products a fancy new dress which increases glamor at point of sale and increases utility in the home.

As an important supplier of the resins from which polyethylene packages are made, Monsanto has outstanding developments to report.

Polyethylene is now packaging powders and liquids, crystals and creams, hard goods and soft goods. Bottles, cans, tubes, vials and transparent packets are being fabricated from polyethylene at low cost. Its coloring characteristics make it ideal for high-fashion containers. Its light weight lowers shipping costs. Its flexibility eliminates breakage.

And user benefits are endless. Powders and lotions can now be neatly applied by "puffing" a polyethylene bottle. Liquids can be squeezed out drop by drop from a polyethylene container that doubles as a dispenser. Precounted capsules and tablets in a polyethylene film bag save the time of druggist or pharmacist in filling prescriptions.

Monsanto will be glad to put you in touch with packaging specialists who will work with you on your requirements. Write Monsanto Chemical Company, Plastics Division, Room 650, Springfield 2, Mass.

Talk to Monsanto about packaging your products in

Monsanto *Polyethylene*

MONSANTO

Monsanto also supplies styrene and cellulose acetate for profitable packaging.

drugs and cosmetics every day!

Cases made of Vuepak add dramatic elegance to famous toiletries!

How an inexpensive "extra" can stimulate impulse buying and build profits is neatly demonstrated by these two handsome packages fabricated of Monsanto Vuepak.

A high-style carrying case, colorfully decorated with a carnival design, gives unique display to a polyethylene squeeze bottle which dispenses liquid cleansing cream.

A transparent container which "tags" the contents with a brief selling message increases the desirability of a conventional facial sponge.

Monsanto cellulose acetate – tradenamed Vuepak–is proving a profitable packaging material for hundreds of other drug and cosmetic items. It is clear as crystal. It is light in weight to cut down shipping expense – yet has exceptional rigidity.

Vuepak forms at low cost into distinctive shapes, and combines readily with either metal or cardboard. It can be embossed or imprinted with standard inks.

The two Helena Rubinstein packages pictured are made of Vuepak by American Cellubox Corporation, Long Island City, New York.

Need help? Monsanto will gladly put you in touch with specialists in plastics packaging who will work with you on your own packaging requirements. Write Monsanto Chemical Company, Plastics Division, Room 650, Springfield 2, Mass.

Talk to Monsanto about packaging your products in

VUEPAK®

cellulose acetate

MONSANTO

Monsanto also supplies styrene and polyethylene for profitable packaging.

Protection . . . against changing package sizes or number of packages per carton. A Bartelt machine can be adjusted to produce a variety of sizes and combinations of packages such as those illustrated at the right.

Protection . . . for your product. Pouches can be made from inexpensive webs or the finest barriers using laminated stock depending on product shelf-life requirements.

Protection . . . against high labor costs. Completely automatic from roll stock to finished carton.

Protection against machine production losses. Bartelt machines are built to machine tool precision from the highest quality materials.

Write today for information on the Bartelt Packaging Line!

1 POUCH
PER CARTON

2 POUCHES
PER CARTON

4 POUCHES
PER CARTON

3 POUCHES
PER CARTON

BARTELT ENGINEERING CO.

1900 HARRISON AVENUE
ROCKFORD, ILLINOIS

New York Office 370 Lexington Ave.

"Machinery for Creative Packaging"

we're moving...

THANKS!!!

Our many, many customers, and their continued growth has forced us to almost double our present capacity. Without them, and also with the expectations of hundreds of more new friends, this move would not be possible.

On or about June 1st, 1956, the OLIVE CAN COMPANY will move its plant and general offices to 4700 North Oketo, Chicago, where complete manufacturing and engineering facilities will always be available for your packaging problems.

Workmanship and real know-how go hand-in-hand, and all under one roof, to better serve our customers' requirements. Deliveries are planned in such a way as to carefully furnish what you want when you want it. That's why so many leading specialty packers have availed themselves of our services.

OLIVE CAN COMPANY

44 YEARS OF QUALITY AND SERVICE

DESIGNERS AND MANUFACTURERS PLAIN AND LITHOGRAPHED **METAL CONTAINERS** CUSTOM OR STOCK DESIGNS

450 N. LEAVITT STREET • CHICAGO 12, ILL.

Out of General Chemical Research...

The Ideal Propellant

For Perfume, Cologne and Personal Product Aerosols

A vast field of new profit opportunities in cosmetic and personal product aerosols is opened by "Genetron" 320/101 Propellant. It is ideal for pressure packaging numerous alcohol-based products . . . anti-perspirants, colognes, perfumes, pharmaceuticals and many others.

Now, glass, plastic and aluminum containers of the most attractive, functional designs can all be used for packaging because of the lower vapor pressures and hydrolysis rates of "Genetron" 320/101. And you insure maximum package safety under consumer use and storage conditions, too.

Unique fragrance-enhancing characteristics with essential oils and perfumes make "Genetron" 320/101 Propellant a virtual "must" for such aerosols as colognes and perfumes.

Greater sales appeal is yours, because "Genetron" 320/101 Propellant has high vapor volume plus low liquid density, which means more products can be packaged with less propellant . . . the containers look fuller, not half empty.

Customer satisfaction is further assured by steady vapor pressures of "Genetron" 320/101 which give uniform, even spray patterns until the container is empty . . . a tremendous competitive advantage. See your contract filler now about using "Genetron" 320/101 for pressure packaging your low-pressure, alcohol-based aerosol formulations.

genetron® 320/101
PROPELLANT
For Alcohol-Based Products . . .
Glamorous, New, Low-Pressure Containers

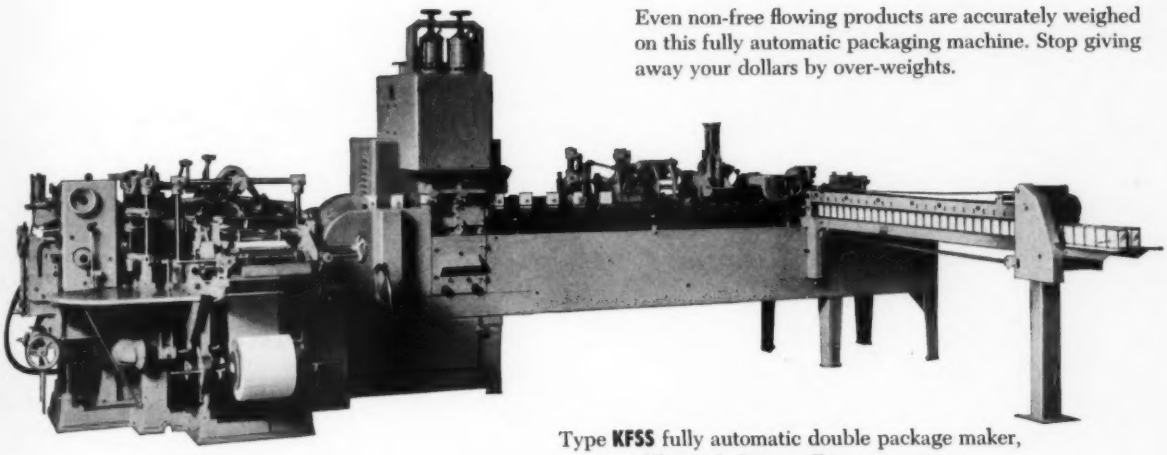
There's a "genetron" Propellant for Every Aerosol Need

For further information send for our illustrated technical manual and market data book—"All About Aerosols."

genetron department
GENERAL CHEMICAL DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 Rector Street, New York 6, N. Y.

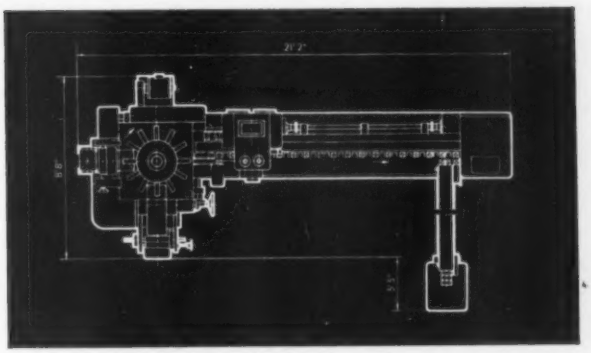
Weigh your package
Increase your profit

Even non-free flowing products are accurately weighed on this fully automatic packaging machine. Stop giving away your dollars by over-weights.



Type **KFSS** fully automatic double package maker, filler and closer—all in one unit—
for dessert powders, etc.,
equipped with gross weighers.
Output 65 packages per minute. 2 operators only.

Compact, easy to run, easy to supervise, easy to clean.



The savings that result from accurate fill, reduced floor space, and low operating costs allow faster recovery of your initial investment.

1906–1956 FIFTY YEARS EXPERIENCE IN AUTOMATIC PACKING MACHINERY

SIG

PACKAGING MACHINES

Well shaped, sift-proof packages with independently folded and closed inner liner. Accordion style top fold permits inner liner to be reclosed until contents are fully used up. Tuck-in or glued flap for top closure of carton.

STOKES & SMITH CO.

4904–Y SUMMERDALE AVENUE, PHILADELPHIA 24, PA.

Pacific Coast: SIMPLEX PACKAGING MACHINERY, INC., 534–23rd AVE., OAKLAND 6, CALIF.

fmc

SUBSIDIARY OF FOOD MACHINERY AND CHEMICAL CORPORATION

WHEATIES
BREAKFAST OF CHAMPIONS
HOLLOWAY'S
Milk Duds
NABISCO
Vanilla Wafers
JELL-O
PUDDING and PIE FILLING
CHOCOLATE
Salerno
GRAHAM
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Pillsbury
12 EGGS
Angel Food Mix
NEW IMPROVED
Betty Crocker
Bisquick
The 1-in-1 Mix
Sunshine
Hi Ho
CRACKERS
ONE POUND
Taste the difference
Country Fresh
25¢
RED DOT
Potato Chips
FAMILY SIZE
RED DOT
Midwest Brand
MULLINIX PEEL-A-ROO

How these famous companies solved their packaging problems with . . .

WAXED GLASSINE
. . . works better, costs less!

WAXED GLASSINE OUTER WRAPS ASSURE:

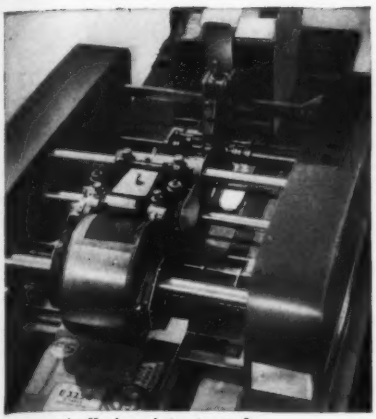
- **STRONG BRAND IDENTIFICATION!** A Waxed Glassine wrap gives you an excellent printing surface, lets you use all sides of your package to create a colorful design for powerful brand identification! Gives you a "selling billboard" on every package! Comes in many colors and weights—one exactly right for every job!
- **WONDERFUL FOR MASS DISPLAYS!** Because Waxed Glassine has more body, it lets you build the colorful mass displays you need for quick identification at the point of sale in today's highly-competitive supermarket merchandising! Even bags can be stacked into mass displays because Waxed Glassine won't slide or slip as other wraps do!

INNER AND OUTER WRAPS OF WAXED GLASSINE AFFORD:

- **EXTRA PROTECTION!** Waxed Glassine protects your product's freshness and flavor, gives you a moisture barrier you can always count on! Easier to open and reclose, it protects freshness even after the package has been opened!
- **EXTRA STRENGTH!** Waxed Glassine is much stronger than similar wraps—cuts down crumbling, breakage, ripped wrappers, and returns that eat up profits!
- **PROTECTION FROM GREASE!** Waxed Glassine resists penetration of your wrapper by fats, oils, or shortenings! Your package stays clean, fresh, and colorful! And rancidity is no longer a problem!
- **LOW COST!** For all the things you need in a wrapper, *nothing* costs less then Waxed Glassine! Initial cost is lower . . . and when you compare *total* costs, Waxed Glassine becomes an even bigger bargain!

ASK YOUR WAXED PAPER SALESMAN
or write to:
WAXED PAPER MERCHANDISING COUNCIL, INC.
38 South Dearborn Street, Chicago 3, Illinois

MERLE NORMAN
FACE POWDER
black satin
TALCUM
BOX
toujours Moi
BATH POWDER
Finest
from every angle
Round and square face powder boxes
Dusting powder boxes in three diameters
Talcum powder boxes
Guest soap and sachet set-up boxes
Manufacturers of Fine Paper Boxes
E. N. Rowell Co. Inc.
BATAVIA, NEW YORK



Automatically imprints at speeds up to 7,500 items an hour!

- Makes a high-quality impression, with accurate register, in an area as large as 4 by 18 inches.
- Handles coated and uncoated paper and board, cellophane, plastics, foils ... in sizes up to 18 by 18 inches, from .010 to 3/16 inches thick.
- Uses instant-drying, flexographic ink which does not have to be mixed. Printing drum uses rubber mats or metal type from 6 pt. up.
- PB Power Stacker shown with Imprinter, has large capacity, keeps imprinted material in order and easy to handle and remove.

Seen this amazing new PB Package Imprinter?

It imprints, marks or codes ... folding cartons, bags, envelopes and other containers up to 7,500 per hour. Permits packages to be printed only as needed to meet current production ... cuts container as well as printing costs, prevents waste of pre-printed material. Ideal for imprinting dealer advertising literature ... Adjustable without tools, it can be easily operated by anybody ... Offers a big savings in packaging for everybody! ... Call the nearest Pitney-Bowes office for a demonstration – soon! Or send coupon for free illustrated folder and booklet of case studies.

PITNEY-BOWES

Imprinting Machines

Made by the originators of the postage meter ... Service from 272 cities in U. S. and Canada.

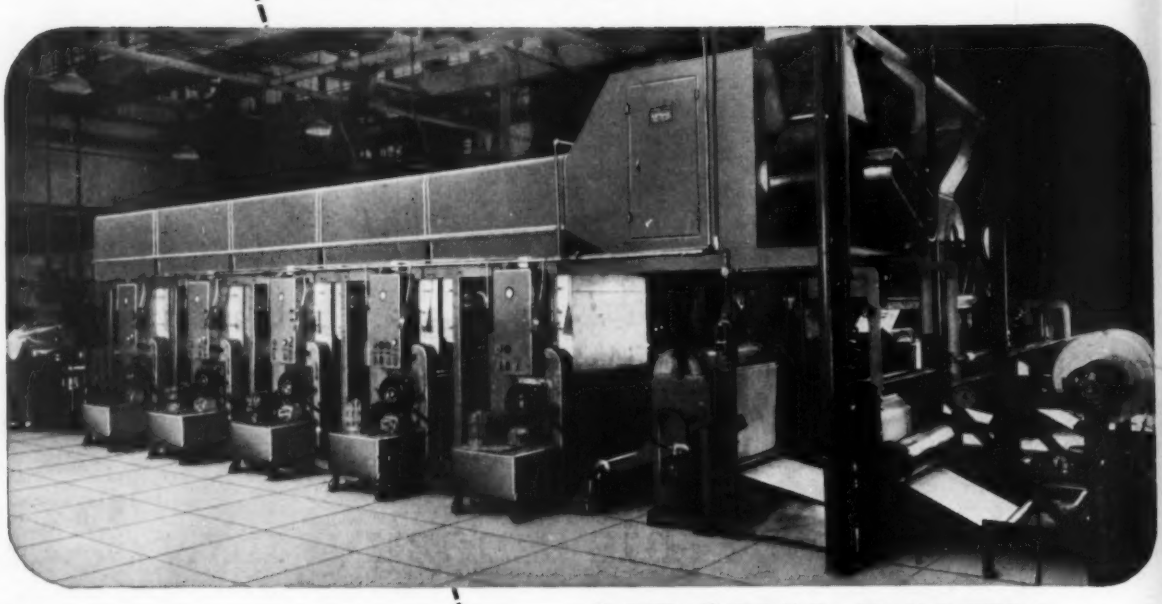
PITNEY-BOWES, INC.
4827 Crosby Street
Stamford, Conn.

Send free Package Imprinter folder and case studies to:

*Name*_____

*Address*_____

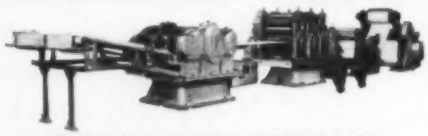
CARTONS WRAPPERS LABELS



require the **HEAVY DUTY**

Staude "1000" ROTOGRAVURE

Consider such features as integral assembly for fast changeover . . . 1,000 ft. per minute . . . 360° running register . . . exclusive doctor blade mounting for easy accessibility. Printing width 26″ to 44″; circumference 23″ minimum; 46″ maximum. A letter or phone call will bring complete information on this versatile inline equipment.



STAUDE ROTARY LETTERPRESS

Best known for making paper milk bottles at a production rate of over a quarter million a day. Printing cylinder circumference; maximum 32″; minimum 16″; 26″ actual printing width.

STAUDE BUTT SPLICER

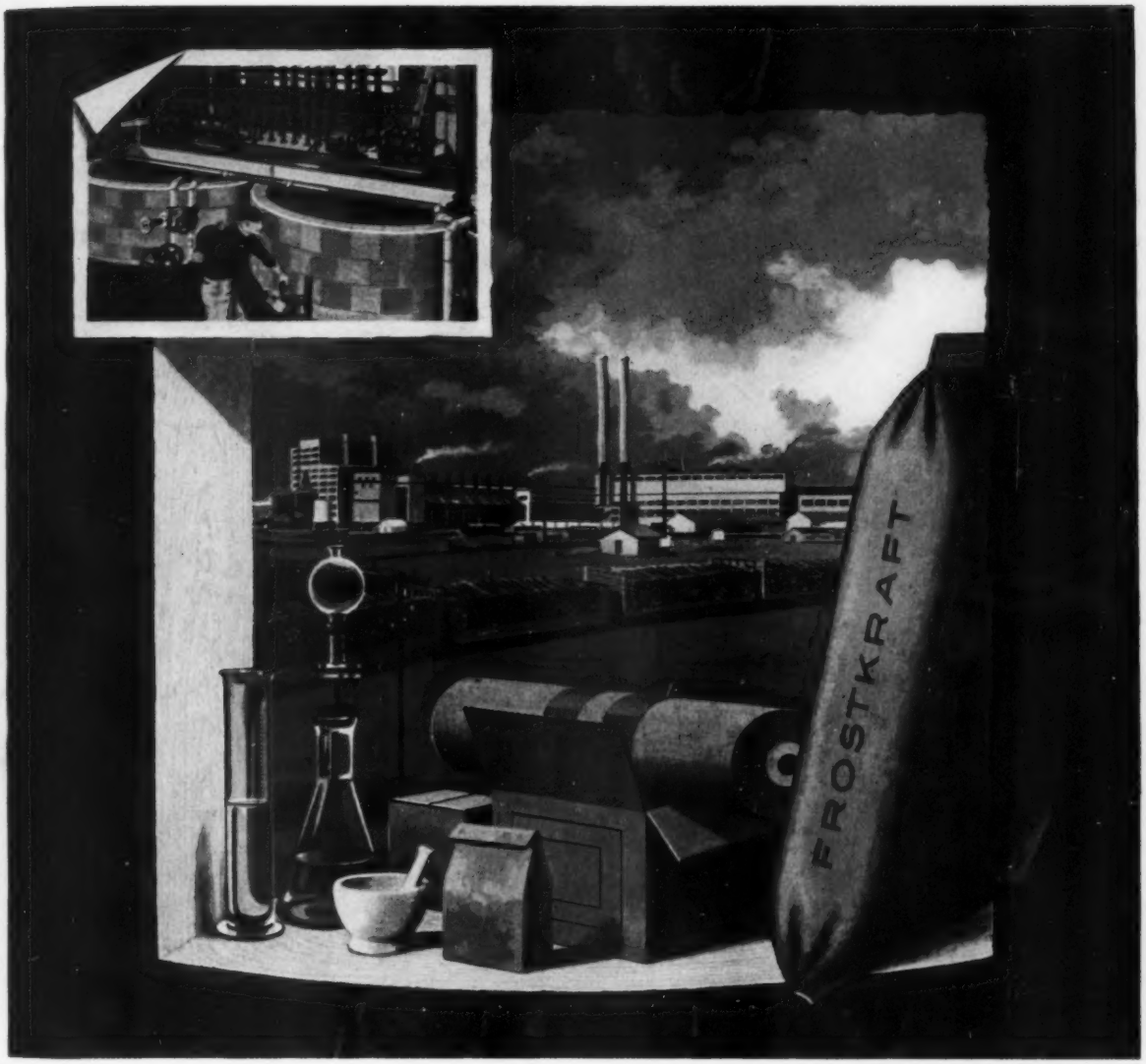
makes a perfect splice without stopping the press.

Eastern Office: 35 Beechwood Ave., Mt. Vernon, N. Y.—Phone: Mt. Vernon 4-3753

Chicago Office: 82 W. Washington Blvd.—Phone: ANdover 3-4980

E. G. Staude MFG. COMPANY, INC.

Rotogravure Press Division: SPRINGFIELD, VERMONT



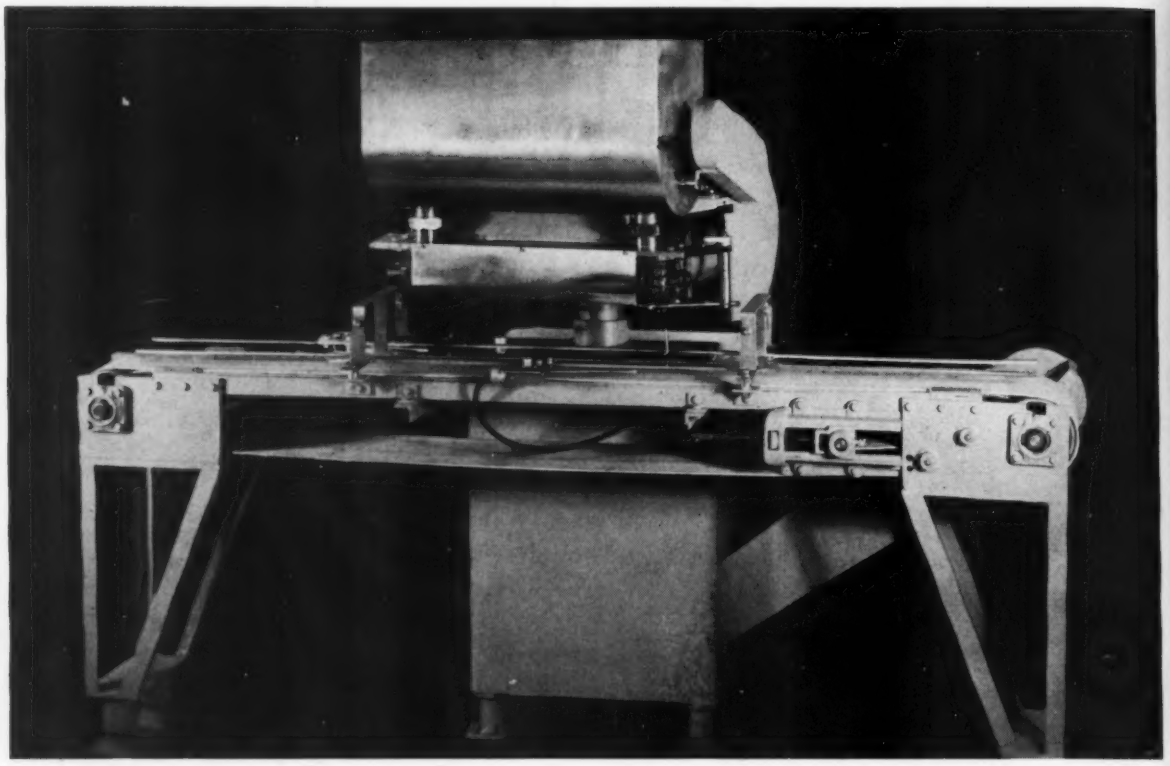
Tough-tempered *FROSTKRAFT* packaging

...better value through quality...better quality through efficiency
...efficiency through integration

FROSTKRAFT bags and corrugated containers deliver maximum dollar value because they are products of a highly efficient, completely integrated industrial operation. Result-conscious Olin Mathieson management controls every step of the manufacturing process... from perpetual forest reserves, to pulp-and-paper mill, to bag and container plants.

A call to your nearest FROSTKRAFT representative will focus Olin Mathieson's tremendous packaging know-how on your Kraft packaging program. Why not contact us today.

FROSTKRAFT
paper products
FOREST PRODUCTS DIVISION
OLIN MATHIESON CHEMICAL CORPORATION
WEST MONROE, LOUISIANA



Fills one or two lines • Handles wide range of containers
Speed is adjustable • Packs many products
Assures positive, uniform measure

Announcing new Pfaudler twin piston filler

for problem filling jobs!

This new Pfaudler machine solves the problem of filling small lots of diversified products or widely varying containers.

It can handle practically any open-top cylindrical or rectangular can, jar, or rigid wax paper container.

It is designed to fill either one or two lines of containers. With two lines you can handle two sizes or types of containers simultaneously, from 2″ to 4½″ in diameter; in the one line position, the unit handles cans up to 8″.

By simply releasing the head pivot lock and turning the adjusting screw in the base you can raise the filling head or lower it to handle containers from 2″ to 7″ high.

By simply adjusting a screw in each piston you can vary the capacity of your fill from 3 to 65 fluid ounces. By filling from both pistons successively into one container, you can inject up to 130 ounces.

Pails and other large containers can be filled precisely by swinging the filling head away from the conveyor and tripping the release manually.

Up to 60 containers per minute can be filled depending on product and container size. Accuracy of fill is within plus or minus ⅛ ounce. This new Pfaudler product is engineered to package all types of viscous or semi-solid products. For complete details, ask for Bulletin 934.

If you are handling these products, investigate this new twin piston filler.

- Chicken a la King, chili con carne, process cheese
- Syrups, sauces, soups
- Apple butter, jellies, preserves, pie mixes
- Citrus concentrates, crushed pineapple, berries
- Baby foods, apple sauce
- Squash, creamed corn, pumpkin, creamed mushrooms
- Potted meat, dog food, cat food, other specialties

THE PFAUDLER CO. **ROCHESTER 3, N. Y.**

Consistently Good!
VENESTA FOIL
A Product of the VENESTA Packaging Division

R. C. CUSTOM-DESIGNED FIBRE CONTAINERS CAN SOLVE YOUR PACKAGING PROBLEMS

Easier Sealing Selling . . . with Plastic-Spouted CAULKING CARTRIDGE

Spout is heat-sealed with a foil-lined polyethylene patented seal — which extends shelf life indefinitely by preventing leakage and drying out of compound.

Spice is Nice . . . when packed in this Sliding-Dredge SPICE CAN

No more broken fingernails, when the housewife opens this can. Opens easily, even with wet hands. Spice can be sifted or spooned.

See Your R.C. CAN-MAN.

R·C· CAN COMPANY

MAIN OFFICE and Factory 9430 Page Blvd., St. Louis 14, Mo.

Branch Factories: Arlington, Tex.; Rittman, O.; Turner, Kans.

R. C. CAN CO. The Stamp of Quality ST. LOUIS, MO.

W. L. BENNETT, 126 S. Third St., Minneapolis 1, Minnesota • CAN SUPPLY COMPANY, 1006 W. Washington Blvd., Los Angeles 15, California C. E. DOBSON, 1003 Carondelet Bldg., New Orleans 12, Louisiana • L. C. MORRIS CO., P. O. Box 8042 Station F, 1156 Dalon Drive, N. E., Atlanta 6, Georgia • S. W. SCOTT & SON, 608 McCall Bldg., Memphis 3, Tennessee • R. C. CAN COMPANY, 225 W. 34th Street, New York City, N. Y. PALMER SUPPLIES CO., OF FLORIDA, Palmer Building, 209-211 E. Robinson, Orlando, Florida • JOE ROVIN, c/o Chicago Transparent Bag Co., 4806 W. Chicago Ave., Chicago 51, Illinois.

How accurate should a cylinder be?

The answer is easy: "Just as accurate as you can make it."

And how accurate can it be made? "Just as accurate as you can find the right grinding equipment and the human skill to make it."

That's what Kidder Press Company has done. Not even micrometers can show the full extent of the skills involved, for it is at the high speeds of the presses and slitters themselves that the technologically correct design, the accuracy, concentricity and balance show such amazing results. And as these presses and slitters deliver their output through the miles and years of grueling service, the full extent of Kidder craftsmanship becomes apparent.

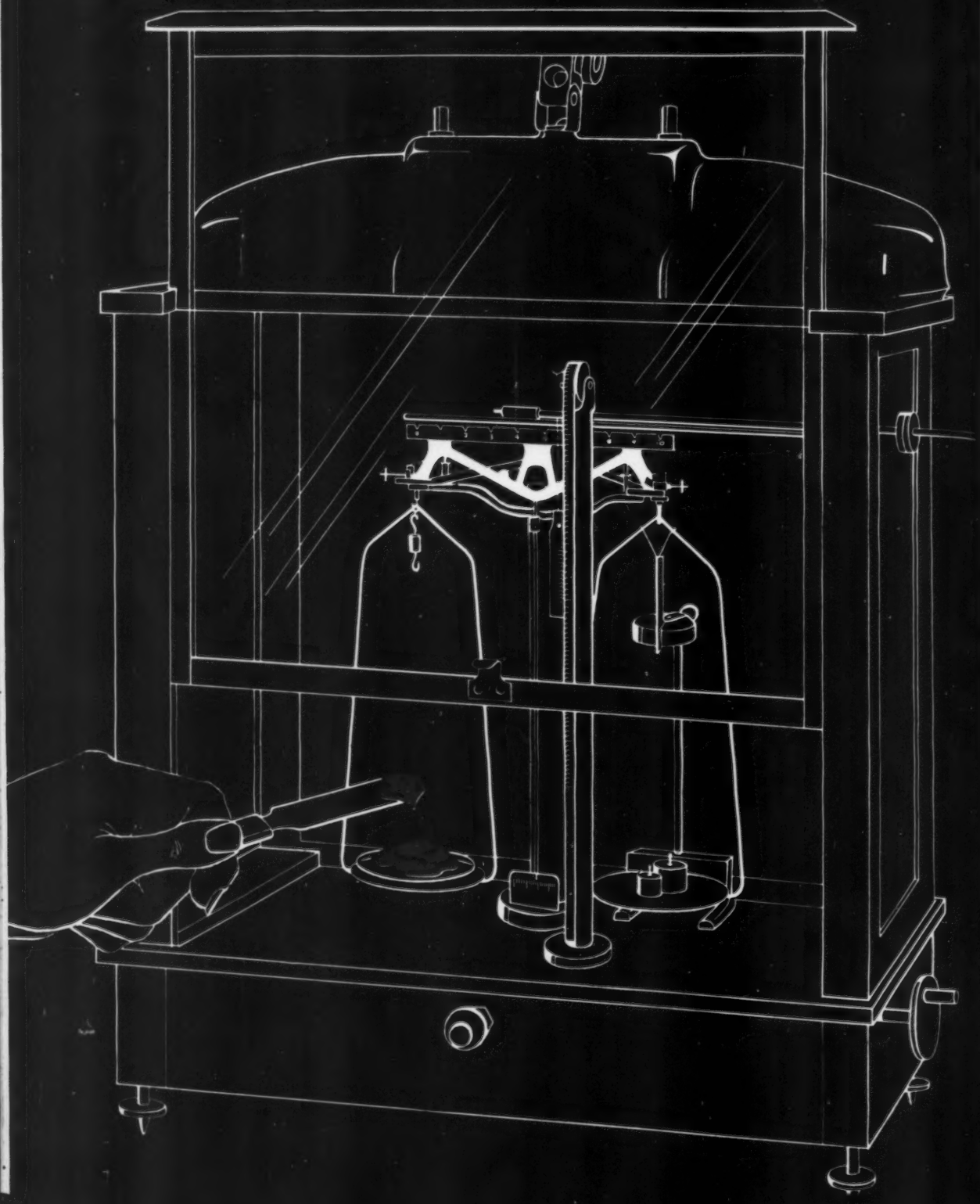
Such standards are reached and maintained at each stage in the building of each Kidder Press. It is the company policy.

Kidder

Letterpress, Flexoprinter® and Gravure Presses, Slitters and Rewinders

KIDDER PRESS CO., INC., DOVER, NEW HAMPSHIRE

A COLOR HANG



IN BALANCE

Color strength in IPI inks is evaluated by these ultra-precision balances for better color uniformity

The components in a printing ink formulation, unless properly dispersed, can throw a formula completely out of balance.

Unless the pigment is well dispersed in an ink, random samples from a single batch and successive batches of this ink will vary perceptibly in color strength. This results in low quality printing, imperfect color matches and less mileage.

IPI technicians check pigment dispersion by the use of balances or scales sensitive enough to weigh an eyelash. They can measure ink samples to within one-millionth of an ounce and compare the results against established color standards for each individual ink. Thus, color uniformity of each batch of ink is tested before a shipment leaves one of our factories.

This scientific yardstick is further proof of the emphasis IPI places on quality control. For you, it means high quality inks—and better quality printing.

IPI service at work for you

Printing plants of all sizes are invited to use IPI's complete ink service facilities in printing centers from coast to coast. Each local IPI service station and branch is staffed by local experienced ink men, well-seasoned in the special printing problems of each locality. They are always on call to help you solve any printing problems—large or small—that may arise. For prompt ink service with a personal touch, contact IPI.

IPI and IC are trade-marks of Interchemical Corporation

Interchemical Corporation

PRINTING INK DIVISION • 67 W. 44th ST., NEW YORK 36, N. Y.

RELY ON IPI FOR LEADERSHIP IN INK RESEARCH

Attractive, shock-proof packages

made from Dylite* plastic

strong...good looking...so light they float!
many colors...any shape...absorb shock!
for glassware, delicate instruments,
machine assemblies.
Where to get them—write to
Koppers for free Directory
of Plastic Packaging Suppliers

*Koppers Trademark

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SALES OFFICES: NEW YORK • BOSTON • PHILADELPHIA • ATLANTA • CHICAGO • DETROIT • HOUSTON • LOS ANGELES

In Canada: Dominion Anilines and Chemicals Ltd., Toronto, Ontario

LET A&S PACKAGING *Spotlight* YOUR PRODUCTS

Potatoes are just one of the highly specialized commodities that are packaged and promoted with A & S bags... marketers of potatoes have their choice of *three* functional bags – MESH WIND-O PAK, POLYETHYLENE and SOLID PAPER – all packed with shelf appeal!

No matter what your product is, your package must have sell appeal to get into the shopping baskets of impulse buyers. A & S has a new concept of packaging based on modern, market-tested designs that give split-second brand identification.

The A & S Flexible Packaging Line includes bags and rolls made from every possible combination of paper, film, and foil, in any design and printed in brilliant colors that won't rub off. Let our packaging engineers work out a sparkling new package to spotlight your product.

Let A & S take over your packaging problem today!
FOR ADDITIONAL INFORMATION, WRITE TO ARKELL & SMITHS, PACKAGING DIVISION, CANAJOHARIE, NEW YORK.

A&S
ARKELL AND SMITHS
EXECUTIVE OFFICES: 500 FIFTH AVE., NEW YORK 36
Manufacturing Plants at:
Canajoharie, N. Y. • Wellsburg, West Virginia
Mobile, Alabama • Hudson Falls, N. Y.
"The Oldest Name in Paper Bags"

WATCH YOUR SALES RISE...

"Contour Packaging has increased sales of Glover's Dog Medicines tremendously," states Mr. James Clancy, Vice-President of H. Clay Glover Co., Inc., "and for the first time, druggists are giving our packages prominent display on *top* of the counter!" Package by The Valley-National Corp., Milldale, Conn.

"Sales of La Cross Manicure Specialties are up 1,000% since we began using contour packaging," says Mr. Edward Ochs, Merchandise Mgr., La Cross Division of Ar. Winarick & Co. Package by Plastic Artisans, Inc., Port Chester, New York.

WITH VACUUM-FORMED . . . PRESSURE-FORMED PACKAGING of Celanese® Acetate Sheeting

Wherever it is introduced, vacuum-formed packaging with acetate sheeting has resulted in a tremendous upsurge in sales of over-the-counter products. Celanese acetate is transparent, tough, rigid and adaptable to deep draws—the ideal material for formed displays and contour, blister and skin-formed packaging.

Formed acetate protects merchandise, yet gives high visibility to the contained product. Loss of parts in packaging multi-part products is eliminated. And to top it all, formed acetate is economical to use, adaptable to long or short runs.

Can your product benefit from the self-service sales appeal of formed acetate packaging? Get the full story of vacuum-forming with acetate from the Celanese Product Development Department. Write Celanese Corporation of America, Plastics Division, Dept. 108-E, 290 Ferry Street, Newark 5, N. J.

Celanese®
PLASTICS

*Reg. U. S. Pat. Off.

Kaiser Aluminum Foil

1. **Won't stretch or deform in contact with oils or liquids.**
2. **Positive vapor barrier**
3. **Clean and non-toxic**
4. **Blocks heat and light rays**
5. **Imparts no taste or odor**
6. **Bars contaminants**

Leading converters rely on Kaiser Aluminum as a major supplier because we are an integrated operation, producing foil of *unsurpassed quality* in a wide range of specifications.

For names of converters eager to tackle your packaging problem, contact the Kaiser Aluminum sales office listed in your telephone directory. Kaiser Aluminum & Chemical Sales, Inc. *General Sales Office,* Palmolive Bldg., Chicago 11, Illinois; *Executive Office,* Kaiser Bldg., Oakland 12, California.

P. S. And remember—Kaiser Aluminum Foil is unmatched for eye-appeal . . . sales appeal!

It's a PACKAGE, too, of course!

Today, packages can be made to do so many jobs that calling them "packages" hardly fills the bill.

This Simoniz Ivalon sponge "merchandiser" protects the products—facilitates price marking—ends one-by-one shelf stacking—compactly and attractively displays the products for inviting self-service. A package, to be sure, but much, much more.

Exciting things are happening in packaging. Wonderful new ideas are in development. To learn what they may mean to you, in the hard coin of more sales, talk to your Gardner representative. A letter will bring him to your office at any convenient time.

Many of America's greatest products go to market in "Cartons by Gardner"

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THERMOFORMING has arrived

It's a new, all-inclusive term for the many types of forming from plastic sheets, which provide a major new kind of packaging of wide and growing applicability

Call it a blister pack, a dome pack, a bubble pack, a contour package or a skin pack . . . form it by vacuum or by pressure . . . shape it around the product or pre-form it on a mold . . . make it rigid or make it flexible . . . form it in your own plant or have the forming done for you.

In all its variations, this new kind of packaging that makes use of contoured sheet plastics has reached the point where, for economy, effectiveness and sheer widespread usefulness, it appears likely some day to challenge the can, the bag, the bottle and the box.

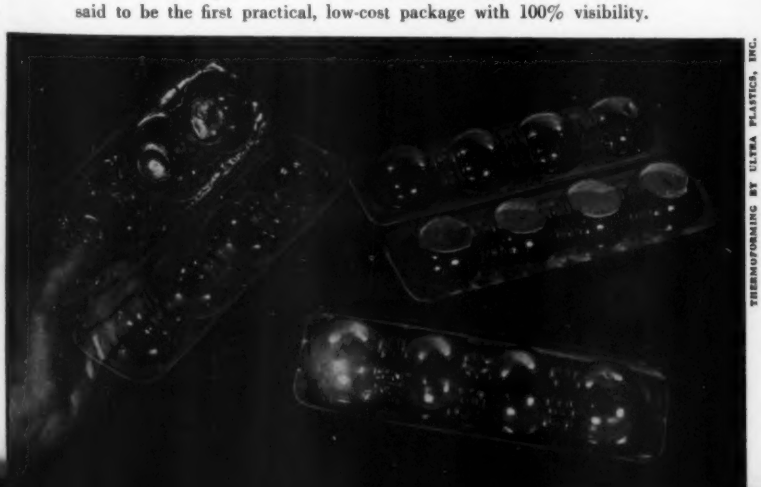
It is time for all packagers to take a new look at this intriguing kind of package—for which the word "thermoformed" is suggested as a badly needed accurate, all-inclusive name. All these packages are formed, rather than molded or fabricated, and the use of heat is fundamental to the method.

This has been one of the fastest-growing trends in modern packaging. It was little more than two

Typical of the almost-daily breakthrough of thermoformed sheet plastics into totally new product and merchandising fields are these acetate-domed cards for miniature dolls and doll clothes. Because packages are so easy to handle and display compellingly on wire-rack merchandisers, Virga confidently expects a million-a-year volume.

THERMOFORMING BY TRAND PLASTICS

Intriguing in both appearance and low cost are these ultra-thin acetate sheet hinged trays for tomatoes and other produce items. It is said to be the first practical, low-cost package with 100% visibility.



THERMOFORMING BY ULTRA PLASTICS, INC.

Mass market awaits Eversharp-Schick "deal" package combining razor, two packs of blades in one thermoformed housing. Sheet is 10-mil butyrate heat sealed to thermoplastic-coated card.

years ago that the formed plastic package first began to be recognized as something more than a novelty and a year later the rush was on.[1]

Already, thermoformed packages have revolutionized the packaging of small hardware items, plumbing supplies and notions; they have cut a wide swath where toys, pharmaceuticals and cosmetics are concerned. They are being used today for everything from hinges to face powder.

Why has thermoforming taken on so much importance for the packager? Because it has brought sheet plastics into the packaging picture so that these ready-to-use materials now have somewhat the same relationship to paperboard as packaging films have long had to paper. In many current applications thermoformed plastics are being used for purposes similar to those of paperboard, but with two important differences: (1) transparency and (2) greatly increased freedom in shape and design.

Just as packaging films have provided see-through and a wider range of functional performance to bags and wraps, so too can plastic sheets provide new dimensions of visibility and packaging function for products that use rigid containers.

Whether a packager will use a bubble pack, a skin pack, an all-plastic contour container, a transparent package, or a container of intricate detail depends on the nature of the product and the merchandising objectives. Generally, soft or very heavy products do not lend themselves to skin packaging. Soft products tend to crush and be flattened by the process. Heavy items require a thicker, stronger sheet and economics then favor the use of separately formed domes.

In skin packaging, the forming, packaging and heat sealing are done in a single operation. The operation usually takes place in the packager's plant. The product, taken directly off the production line, is used as the mold. Thin-gauge sheet (5 to 10 mils) is heated and drawn right down over the product.

Blister packaging is generally best for the manufacturer who cannot or prefers not to do his own forming.

The speed of developments in thermoforming and the many confusing variations that have sprung up have left many packagers bewildered. This article will attempt to clear away some of the confusion, to pick out the major currents in the stream of new developments and to point out where thermoformed packages are heading—in materials, in methods and in product applicability.

The trends

One of the most significant developments is the application of thermoforming packages to food products. This development is just getting under way. It promises to be challenging, extensive and—for some items—revolutionary.

The all-plastic thermoformed container is coming to the fore.[2] In purpose and performance it is like the folding carton, but it will do some of the jobs that jars and cans perform. Big uses are anticipated for thermoforms packaging products such as tomatoes, eggs and frozen foods.

Even thermoformed bottles—designed to package syrups, flavor concentrates, powders, pharmaceuticals and battery acids—are currently in the final testing stage.

Thermoformers are discovering they can handle polyethylene sheet without difficulty. The possibilities here are particularly intriguing because of polyethylene's well-known packaging characteristics, including inertness to foods and acids, and its low cost. Thermoformed polyethylene has great potentials for food packaging. Fish fillets, for example, are now being packaged and frozen in formed polyethylene containers.

Polyethylene sheet, because of its strength and flexibility, also has important uses ahead in industrial packaging.

Along with polyethylene, other sheet plastics are receiving increased attention: high-impact polystyrene for detail and unusual surface treatments; oriented polystyrene for optical clarity, inertness and strength; cast vinyl for ease of forming, for non-curl performance and excellent clarity in skin packs and for maintenance of print quality during the forming process; acetate and butyrate, because

[1]See "Vacuum Formed Plastics," Modern Packaging, Feb., 1954, p. 108, and "The Rush to Formed Plastics," March, 1955, p. 79.

[2]See "An All-Plastic Blister," Modern Packaging, Dec., 1955, p. 98, and "All-Plastic Contoured Halves," Modern Packaging, Feb., 1956, p. 122.

they have already demonstrated their excellent forming properties, clarity and low cost.

A helpful comparison of materials and methods may be found in the accompanying table, "Guide to Plastics for Thermoformed Packages."

Another significant recent discovery is that thermoformed packages lend themselves to the packaging of very large or awkward items. Products such as ball bats, fishing rods and guns need not consider size a packaging handicap. Thermoforming can solve the problem and provide transparency for impulse buying as well.

Volume uses

Most convincing is the number of thermoformed packages that have proved highly successful in national distribution.

Sears, Roebuck & Co. is making very successful use of thermoformed packages for hardware parts.

Kraft Foods has been steadily expanding its line of "Portion Control" packages.

Cosmetic houses like Coty, Dorothy Gray and Bourjois are using thermoformed containers effectively and with evident success.

Use of blister packs for drugs and pharmaceuticals is extensive and growing larger. Tins of Anacin tablets, for example, are blister packed on a dispenser-type display card. Schering, Ayerst, Pfizer, Hoffman, La Roche and many other leading pharmaceutical houses employ thermoformed packages, especially for doctors' samples.

These thermoforms offer a combination of convenience, visibility and low cost hardly obtainable in any other package type.

Among the important new users of skin packaging is Eversharp-Schick. This firm has recently introduced a skin-packaged special offer consisting of a razor and two cartons of injector blades. The plastic

THERMOFORMING BY SHAW-RANDALL

Polyethylene sheet: a new entry in the thermoforming race

Contoured to odd-shaped product, polyethylene-sheet platform with fold-over flaps protects the paperboard box from grease in suppositories.

THERMOFORMING BY SHAW-RANDALL

First in frozen foods is this thermoformed polyethylene container with printed polyethylene-cellophane film cover.

Bottle holders formed from polyethylene neatly secure bottles in this La Cross manicure kit. Strip fastens to the case with metal grommets.

STRIP PLATFORM BY PLASTIC ARTISANS

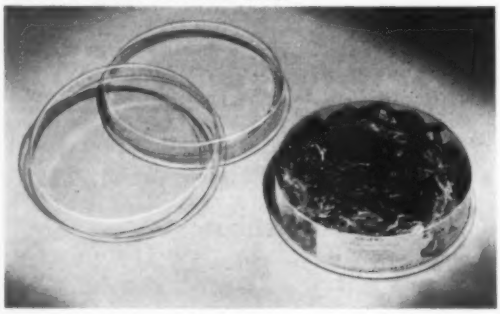
skin is clear butyrate, 7 mils thick, formed over the razor and blades and heat sealed to a printed, thermoplastic-coated card. Forming and sealing are done in a single operation in the packager's plant. The forming and cutting operations are semi-automatic, with 24 to 30 packages being produced in a cycle of the forming machine. It will be interesting to watch the success of this deal package, for razors and blades are typically a mass-produced and mass-distributed item.

Another new thermoformed package pointing the way to mass-volume merchandising is a rack-jobber type of package adopted by Beehler Arts, New York City, for the company's Virga line of dolls and doll clothes. These items are packaged in a 7½-mil acetate blister stapled to a paperboard back. The new bubble pack replaces a window-front folding carton.

Beehler Arts likes the new package because it is more compact and lighter in weight. Cost of materials is believed to be comparable, but economies in assembling the doll clothes and putting them into the bubble pack are expected to tip the balance in favor of the bubble. This is true because a die-cut mounting card is not required in the more compact, contoured package. Most important of all, however, is the fact that the new pack is designed for the rack jobber. It displays the products, can be handled without breakage, is extremely compact and can be merchandised from shelf, bin, display tree or any other proven type of supermarket facility.

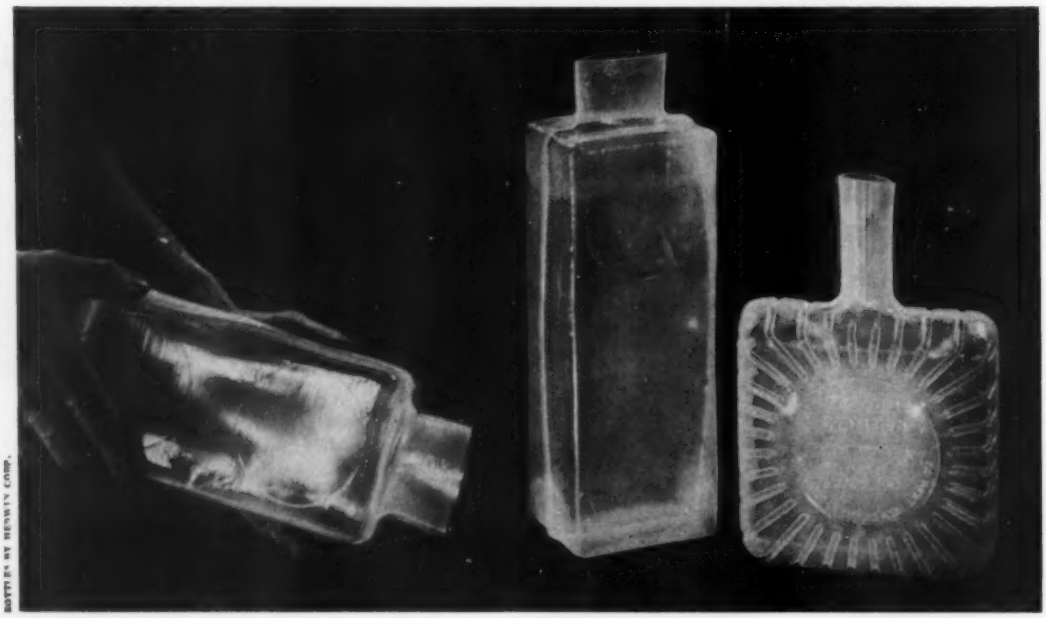
According to Beehler Arts, the potential of its bubble packs in supermarkets alone involves millions of units. The Virga line has enjoyed many successful tie-in promotions with food, soap and other merchandisers. The new package, it is said, offers new opportunities in this very important field because of its novel display and streamlined merchandising features.

CONTAINER BY EASTERN VACUUM FORMING CORP.



Supermarket package for Charms candies combines a paperboard base with a thermoformed acetate side wall and telescoping cover. It makes an economical transparent box for a low-cost product.

Bottles, too, can be made of two thermoformed halves welded together at center seam. These experimental bottles of polyethylene sheet have shown such strength and leakproofness that they are being test marketed as single-shot containers for battery acid. Top is heat sealed shut after filling; no closure is required.



BOTTLES BY HEINZ CORP.

A package of unusual construction unitizes a ball and a 32-in. bat in a set merchandised by The Wiffle Ball, Inc., New Haven, Conn. Just the idea of a plastic visibility package for an item as big as a ball bat is packaging news. This container is one piece and is hinged at one flange to form top and bottom nesting compartments. It is formed from 10-mil acetate. Makers of fishing rods, umbrellas, curtain rods, guns, flags and similar items can do well to note.

Thermoforms for foods

Seen only to a limited extent this spring, but certainly a development deserving much study, is the thermoformed carton for tomatoes. Several one-piece, hinged styles have been produced and cartons for eggs, apples, limes and similar items are available or under development.

The major advantage of these containers is total "see-through." Also, the container, because of light refractions, is said to improve the appearance of the tomatoes or similar produce. The shelf life of the package itself is longer than that of paperboard. When refrigerated, it is said, moisture does not cloud the package.

The first package of this type to be seen in the frozen-food field is the polyethylene container for "Queen of the Seas" quick-frozen cod fillets, now being packaged by the K. D. Cobban Co., Seward, Alaska. This container consists of a ribbed (for rigidity) tray. The cover is heat-sealed polyethylene-cellophane film. The fillets are quick frozen in the container. Polyethylene, of course, is well adapted to sub-zero conditions.

The Cobban package is reminiscent of the Crescent cottage cheese package introduced in Montreal last year.[3] The packager of this refrigerated but non-frozen product reports it has enjoyed excellent reception during its year of marketing and a new, smaller, ½-lb.-size container has recently been introduced.

At least one dairy company is market testing thermoformed oriented polystyrene containers that mold ice cream in shapes of bears, bunnies, Easter eggs, ducks and other forms appealing to juvenile or special-occasion interests. The thermoform is a natural for food products that lend themselves to special designs and sculptured effects.

Polyethylene

Special note should be taken of the growing interest in polyethylene as a material for thermoforming. Whereas most formers last year regarded this plastic as too difficult to form, today there are dozens of thermoformed polyethylene containers and components.

Formed polyethylene bottles for battery acid are being test marketed. This bottle consists of two matching halves joined together by heat sealing the flanges of the matching halves. Although formed in separate parts and joined together, the joint is said to be as strong as any other part of the container. In destructive tests, final failure, reportedly, never occurs in the joint itself.

Bottles of this type are now being produced in 1.4- and 1.7-qt. sizes, but other sizes and numerous shapes can be produced. The method of producing the bottles is said to be quite versatile, so that it will offer opportunity for many design concepts in varied applications. Containers can be made with an average thickness ranging from 10 mils up to ⅛ in. The acid container is approximately 20 mils thick.

It is difficult at this time to evaluate the advantages thermoformed bottles will have in comparison to blow-molded containers. In many cases they may prove less expensive. Designed usually for a single use without reclosure, they require no threaded finish or separate threaded closure; they are simply heat sealed at the top and cut off for emptying. Certainly they will offer unusual design potentials, especially in small runs.

Thermoformed polyethylene promises to take on many important jobs in the form of package liners, inserts, platforms and similar components.

For example, formed polyethylene liners are solving a packaging problem for the Desitin Chemical Co., Providence, R. I. This firm packages 12 foil-wrapped suppositories in a tray-and-sleeve-style set-up box. The Desitin liner is a strip of polyethylene sheet that is formed to provide 12 individual pockets

PACKAGE BY PLASTIC ENTERPRISES

Life-like dimension is given to these statuettes of baseball stars by carded housing thermoformed to fit contours of the figures.

[3]See "Polyethylene Formed for Food," Modern Packaging, March, 1955, p. 106.

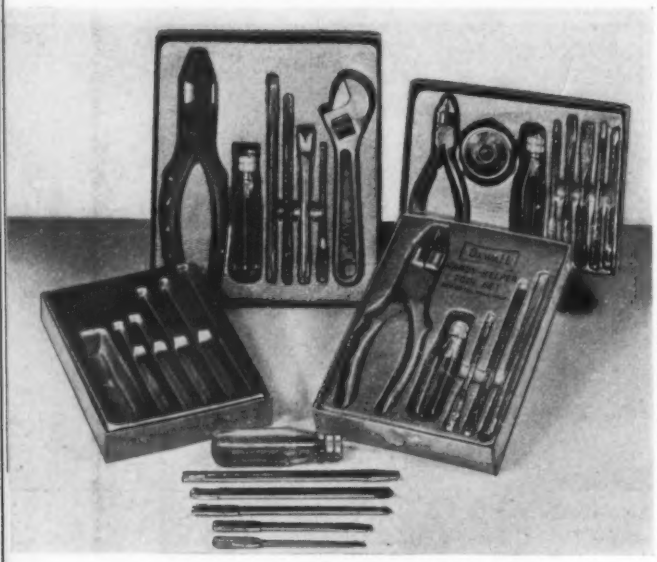


PHOTO COURTESY EMET VACUUM FORMING CORP.

Contours for tools are provided by this typical application of vacuum forming to a box platform, made of 15-mil high-impact polystyrene. Fabricated transparent cover completes a low-cost package with gift appeal and re-use value.

Automatic machinery for all types of thermoforming is rapidly being developed and used. This new "trapped sheet" former is especially adapted to cross-oriented polystyrene sheet and is being used by Dixie Cup Co. in high-speed production of transparent lids for liquid-tight containers. Stacked blanks (1) are positioned (2) for forming between two halves of forming unit (3), then drop down delivery chute (4) where plunger (5) keeps column of finished lids stacked.

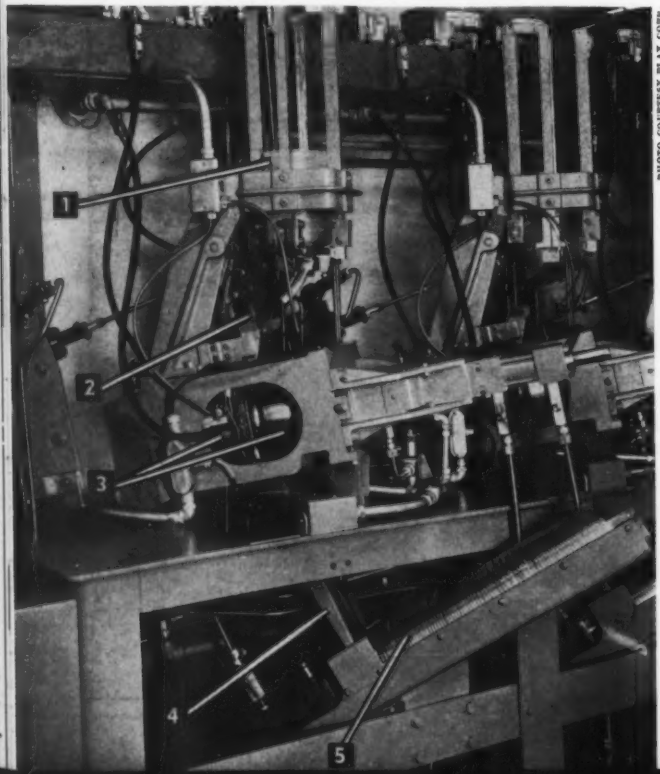


PHOTO COURTESY PLAX CORP.

covered by two fold-over flaps. According to Desitin, the liner not only eliminates the problem of oil-stained cartons, but also helps prevent crushing or misshaping of the suppositories.

Industrial parts

Thermoformed polyethylene containers are being pioneered for industrial parts—gears, small motors and similar heavy pieces. These applications are quite new and the extent so far is rather limited.

Nevertheless, there can be little doubt that the entire field of thermoforming, employing not just one, but all types of plastic sheet, has much to offer the industrial packager—including matching contours to immobilize odd-shaped parts, excellent protection and use properties, plus functional visibility.

The latter is a truly new frontier in the industrial packaging field. Functional visibility employs see-through properties of the package to speed inventorying, stock handling and stock selection. It can help eliminate or reduce the need for cycling of equipment held in long-term storage. Thermoformed, sealed transparent containers are being studied as a means of alleviating the problem of opening, inspecting and repacking certain military supplies at frequent intervals.

Formed acetate packages for bearings sealed in a bath of oil have already stirred considerable interest. A thermoformed plastic package for "O" rings has also received favorable attention, because the ring is encapsulated in plastic and is firmly held to prevent distortion and damage.

Color coding is used effectively with the see-through industrial package; this speeds the selection of "O" rings, resistors, condensers and similar items. Visibility and color coding make such an effective team that labeling and identification by stock number can be greatly simplified, with consequent savings in manpower and avoidance of mistakes.

The formed visibility container is practical for relatively large sizes, very small sizes, long lengths, enlarged contours or very minute detail—advantages that have obvious merit in industrial packaging.

Materials in the future

In addition to the plastics now being used for thermoformed packages, there are others the packager will do well to watch. Methacrylate (acrylic), polyester film, low-pressure polyethylene, ethyl cellulose and nylon have interesting possibilities. These materials have not yet had sufficient trial as formed-package materials. Some are costly, but, as one authority puts it, "the properties are delightful."

Cost thinking will have to be revised downward

MODERN PACKAGING'S GUI

Material[1]	Forming Characteristics	Typi Gauge Range
Cellulose acetate	Forms readily with vacuum or pressure on simple equipment. Techniques are well developed for producing packages of good clarity and strength. Cycles are short and economical. Sheet forms at temperature of 300 to 325 deg. F. Ring assist with male mold and plug assist with female mold help produce more uniform wall thickness.[2] Best results obtained by heating sheets rapidly with high-temperature heater (1,000 deg. F.)	0.0 to 0.0
Cellulose acetate butyrate	Forms readily with vacuum or pressure on simple equipment. Forming techniques well developed for producing packages of good clarity and strength. Cycles are short and economical. Sheet forms at 305 to 330 deg. F. Resists webbing, blush and shrinkage. Overheating, evidenced by surface bubbles, can be a problem.	0.0 to 0.0
Polyethylene	Forms readily using drape and male- or female-type molds. Relatively sharp melting point. Low hot strength. Slow to heat and slow to cool. Heating cycle must be precise. Cooled molds minimize post-mold shrinkage. Sheet forms at temperature of 350 to 375 deg. F. Heaters in 1,000 to 1,200 deg. F. range recommended to keep heating cycles to minimum. Because of flexibility may offer problems in cutting and trimming.	0.0 to 0.0
Polystyrene, modified	Excellent for difficult draws and where detail is required. Sheet temperatures of 300 to 325 deg. F are used. Vacuum of 28 in. is best, but some parts can be formed using vacuum as low as 10 in. Conventional equipment used. Trims easily. Pre-heat time and temperatures vary with degree of modification.	0.0 to 0.0
Polystyrene, oriented	Low-detail designs can be formed by conventional vacuum or pressure forming methods. Sheet forms at 250 to 300 deg. F. To attain maximum benefit of high-yield, low-cost properties, contact heating--air pressure systems are recommended. This provides maximum design potential for rigidity in thin sections at high speed. Trapped sheet method is used to maintain orientation during forming.	0.0 to 0.0
Vinyl copolymer	Forms readily at low pressures. Low strain level. Cast vinyl forms at 280 to 310 deg. F. Calendered vinyl at 260 to 280 deg. F. Has high elongation and high tensile strength. Good dimensional stability and low coefficient of expansion. Has short pre-heat time. Wide pre-heat range. Vinyl is readily printed and is easiest to form without defacing printing. Good detail can be achieved.	0.0 to 0.0

* Based on information from producers and users of thermoplastic sheet. For specific data consul
1 Materials listed here are those now used most extensively in vacuum or pressure forming pa acrylic, ethyl cellulose, "Mylar" polyester sheet, nylon and low-pressure polyethylene.
2 This statement, in general, is also true where the forming of other plastic sheets is concerne
3 Figures are for clear or normal grades generally used in package-forming applications. Estimat gauge, yield, performance desired and ease of forming. Estimates are, in general, based on maxi is given this indicates different estimates prevail for variations in gauge and type of sheet

GUIDE TO PLASTICS FOR THERM

	Typical Gauges Used Range, in.	Yield Sq.in./lb. 10 mil g.	Price[3] per lb. (approx.)	Uses and Potential Uses
	0.005 to 0.020	2,100	$0.68 to $0.78	Bubble packs, skin-packs, containers and components for cosmetics, drugs, hardware, textiles, games, industrial goods, notions, powders, some dry food products, egg and vegetable cartons, candy.
	0.005 to 0.020	2,250	$0.90 (0.015 gauge)	Skin-packs. Contour and blister packs. Largest present uses for cabinet hardware, tools, small automotive replacement parts and similar items. Effective for immobilizing and keeping screws and bolts intact because of toughness, clarity and forming ease.
	0.005 to 0.030	3,000	$0.56 to $0.80	Semi-rigid containers for foods: cheese, meat, frozen fish, produce. Containers for battery acid, drugs, textiles and for industrial goods, such as gears, spare parts. Platforms in personal product packages. Potential for contour and skin-pack.
	0.010 to 0.040	2,600	$0.55 to $0.70	Containers for pharmaceuticals, surgical instruments. Containers for cheese, sundae dishes, flower pots, package components, such as platforms.
	0.005 to 0.010	2,680	$0.74 (0.01 gauge)	Snap-on lids for paper and aluminum containers. Containers and trays for prepared foods, meat and produce, candies and condiments. Blister packages and platforms.
	0.005 to 0.040	2,000	$0.63 to $0.84	Uses depend on type. Cast vinyl for skinpacks. Calendered for semi-rigid containers, platforms, displays. Used for foods: condiments, jelly, syrup, ice cream. Used for hardware, paint sets. Combines effectively with paperboard, for example, a gift case with formed-in hinge for cutlery.

data consult the producers of materials and other technical authorities.
forming packages and package components. Other materials now being used or potentially useful include:
lene.
is concerned.
ons. Estimates are intended solely as relative guide or benchmark to be used with other factors, including
ased on maximum-quantity quotation and were current only at time of preparation. Where range of quotations
pe of sheet stock.

TO PLASTICS FOR THE

Yield Sq.in./lb. 10 mil g.	*Price[3] per lb. (approx.)*	*Uses and Potential Uses*
2,100	$0.68 to $0.78	Bubble packs, skin-packs, containers and ponents for cosmetics, drugs, hardware, tiles, games, industrial goods, notions, ders, some dry food products, egg and vege cartons, candy.
2,250	$0.90 (0.015 gauge)	Skin-packs. Contour and blister packs. La present uses for cabinet hardware, tools, automotive replacement parts and similar Effective for immobilizing and keeping and bolts intact because of toughness, c and forming ease.
3,000	$0.56 to $0.80	Semi-rigid containers for foods: cheese, frozen fish, produce. Containers for ba acid, drugs, textiles and for industrial such as gears, spare parts. Platforms i sonal product packages. Potential for c and skin-pack.
2,600	$0.55 to $0.70	Containers for pharmaceuticals, surgical i ments. Containers for cheese, sundae d flower pots, package components, such as forms.
2,680	$0.74 (0.01 gauge)	Snap-on lids for paper and aluminum conta Containers and trays for prepared foods and produce, candies and condiments. B packages and platforms.
2,000	$0.63 to $0.84	Uses depend on type. Cast vinyl for skin Calendered for semi-rigid containers, plat displays. Used for foods: condiments, syrup, ice cream. Used for hardware, sets. Combines effectively with paperboa example, a gift case with formed-in hin cutlery.

oducers of materials and other technical authorities.
nd package components. Other materials now being used or potentially useful

ntended solely as relative guide or benchmark to be used with other factors, i
tity quotation and were current only at time of preparation. Where range of qu

THERMOFORMED PACKAGES*

l Uses	*Packaging Characteristics*[4]
ainers and com- hardware, tex- s, notions, pow- gg and vegetable	Most popular and widely used sheet for thermoforming because of its clarity, formability, economy. Excellent "see through." Good impact strength. Tasteless. Odorless. Resistant to oil, grease. Prints well. Easily cemented. Can be sealed electronically. Gas permeable. Excellent for foods such as produce and candy. Not recommended for certain wet foods because of high WVTR.
r packs. Largest re, tools, small d similar items. d keeping screws ughness, clarity	Toughness. Good impact strength. Excellent clarity after forming. Good resistance to outdoor weathering. Easily cemented, stapled or heat sealed to coated boxboards. May exhibit slight odor. Not used for foods.
s: cheese, meat, ers for battery industrial goods, latforms in per- tial for contour	Tough. Tasteless. Odorless. Non-toxic. Semi-transparent. Good inertness to chemicals, acids, certain greases. Good physical strength properties over broad range of temperatures. Low WVTR. Good shelf life. Light weight. Absorbs stains and odors. Scuffs.
surgical instru- sundae dishes, ts, such as plat-	Translucent and opaque colors. Low WVTR. Tasteless. Odorless. Heat sealable (pulse sealer). Flexible, but rigid enough for snap covers. Can be printed. Good impact strength at room temperature.
minum containers. pared foods, meat diments. Blister	Excellent optical clarity. Odorless. Tasteless. Non-toxic. Grease and moisture resistant. Biaxially oriented sheet has excellent dimensional stability and shape retention, even under tension and in range of high and low temperatures. Excellent rigidity in relation to gauge. Tends to brittleness under certain conditions.
yl for skinpacks. iners, platforms, ndiments, jelly, hardware, paint th paperboard, for rmed-in hinge for	Available in rigid and flexible and in normal and high-impact types. Cast (flexible) vinyl used for skin-packs. Calendered (rigid) vinyl, for semi-rigid containers. Semi-transparent. Available in colors. Odorless. Tasteless. Resists moisture and oil. Good strength, but rigid vinyl tends to embrittle after forming. Can be heat or solvent sealed. Flexible vinyl for food packs must use non-toxic plasticizer.

ally useful include:

r factors, including
range of quotations

[4] See also "Characteristics of Sheet Plastics," Modern Packaging Encyclopedia issue -- 1956. p. 278, for a more complete description of physical and functional characteristics.

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if thermoforming creates volume demand for some of the lesser-used sheet plastics.

Several formers are working with colored, textured or decorative sheets simulating wood, leather, gold vein or other attractive finishes. Metallized or flocked sheets are already being formed advantageously. A new high-impact polystyrene available in decorative finishes is being suggested as a desirable sheet for thermoformed cosmetic packages, re-use containers and for platforms and similar accessories for gift or luxury-type containers.

Vinyl sheet is being effectively and economically laminated to paperboard and thermoformed, as in the attractive package for Carvel Hall steak knives previously shown in these pages.[4] This sandwich construction demonstrates a "marriage" of materials that has unlimited possibilities. The Carvel Hall package gains moldability from the vinyl, support and body from the paperboard. It is only natural that packagers and thermoformers will look to other sandwich constructions and laminations for new advantages in packaging.

Techniques

The methods employed in thermoforming range from simple vacuum forming to highly specialized techniques involving the use of customized equipment. Know-how has been growing at a rapid pace.

The Master Rule Co., Middletown, N. Y., one of the pioneering thermoform packagers, formerly used latex-coated cohesive cards in packaging steel-tape rules.[5] The cutting of the cards was done by hand. Now Master Rule has its own coating machine and applies a dextrin adhesive. A clicker machine has been installed to cut the cards apart.

Master Rule does skin packaging; that is, it uses the product itself as the mold and plastic sheet (10-mil butyrate) is formed tightly to the exact contours of the product. Master Rule's refinements in cutting the plastic-encased rules and in locking them to the book-fold cards reportedly make the process even less costly and more satisfactory from a supply point of view. The present skin package is no more costly than the original method employed by the company of packaging six rules in a reinforced box. Today some 70% of Master Rule's output goes into skin packages.

The heat sealing of the plastic blister or skin package to a thermoplastic-coated board is a method that many other companies find advantageous. One thermoformer heat seals nail files in acetate blisters to paperboard cards by means of a press equipped with a heat attachment and employing a 12-cavity jig. The formed sheet of acetate filled with 12 nail files is placed over the jig. Heat is applied through the back of the acetate-coated card. The card is then die cut, separating the blister packs into sealed, individual units.

Another packager of manicuring accessories locks his blister packs to die-cut cards by means of a label applied by a standard labeler.[6]

In addition to latexed or dextrin-glued cards, heat sealing and labeling—as mentioned above—blisters can be stapled to cards. Also, all-plastic skin packages have been developed for products such as toy Indians and for kitchen-cabinet hardware. Essentially these items are thermoformed strip packages, featuring total visibility and excellent advantages for multiple-unit merchandising.

Another all-plastic thermoform previously cited is a package adopted by Sears, Roebuck & Co. for

[*Continued on page 231*]

SIGN BY GOODREN PRODUCTS CORP.

New dimensions in point-of-sale displays are provided by flexographic printing and thermoforming of a single sheet of clear acetate. The bottle and the goggle-eyed head stand out in striking relief on this sign with pressure-sensitive strips top and bottom for fastening to door or window.

[4]See "High-Styled Polyvinyl," Modern Packaging, Nov., 1955, p. 120.
[5]See "Vacuum Formed Plastics," Modern Packaging, Feb., 1954, p. 108.
[6]See "Label-Locked Domes," Modern Packaging, June, 1955, p. 104.

Range of age groups for Kaynee boys' wear are suggested by freckle-faced six-year-old, mischievous 10-year-old, crew-cut teenager. So effective is identification, company gets letters addressed to "Kaynee boys-and-dog brand." This "back-to-school" scene is for the company's fall and winter promotions.

The Kaynee boys

Full-color printings of three typical American boys and their dog suggest folksy trademark technique that may pace new trend for set-up box wraps in garment field

Spring and summer promotions are built around this kite-flying scene. Modular box system permits the use of the same-size covers on all boxes. This simplifies keeping of inventories and also keeps down the costs of color plates.

There's something very modern, yet very pleasingly nostalgic about the three boys currently pictured in full-color lithography on the new box wraps adopted by the Kaynee Co., Cleveland, Ohio, for a line of boys' wear sized and styled for ages two to 20.

In a way they are reminiscent of the homey trademarks of a bygone year—yet may be the beginning of a new trend in full-color art treatment to step up the display appeal of retail garment boxes of set-up construction.

The boys were created as part of a package redesign program aimed at building a much-needed

corporate brand identity for the Kaynee products.

The Kaynee Co. is one of the country's oldest and largest exclusive manufacturers of fine boys' wear, with a continuous history of progress in its field since 1888. When Leon G. Kahn took over the presidency two years ago, Kaynee had a large, aggressive and effective sales organization, an excellent reputation and a good sales volume. Within the industry and among retailers, the company was well known not only for its leadership in styling and innovation, but also for its unique system of sizing in a range from two to 20 in three basic age groups.

But the company found there was one thing Kaynee did not have. As far as the customer was concerned, there was no integrated identity covering both the company and its products. The name, Kaynee, in itself suggested nothing and it had never been promoted in over-all connection with the Kaynee line. Consequently, although Kaynee advertised extensively, a great deal of the impact of its advertising was lost. At best, ads promoted individual items rather than the line itself.

Customers might buy Kaynee shirts or pajamas without realizing that the company also made shorts, slacks, caps, knit wear, swim wear, jackets and coordinated outfits. And although Kaynee made boys' wear in sizes to fit a boy from the time he ceases being an infant until he becomes a young adult, many a mother bought Kaynee clothes for a six- or eight-year-old without realizing that Kaynee clothes were also made for his older and younger brothers.

Mr. Kahn decided it was high time that the name, Kaynee, instead of representing merely a label in a garment, should be established in the mind of the customer in automatic association with the complete variety and range of boys' wear.

This could have been accomplished through a massive advertising campaign, but to do this effectively, it was reasoned, would have been extremely costly and completely unrealistic for a company already prosperous and seeking to take advantage of what it already had rather than extensive expansion.

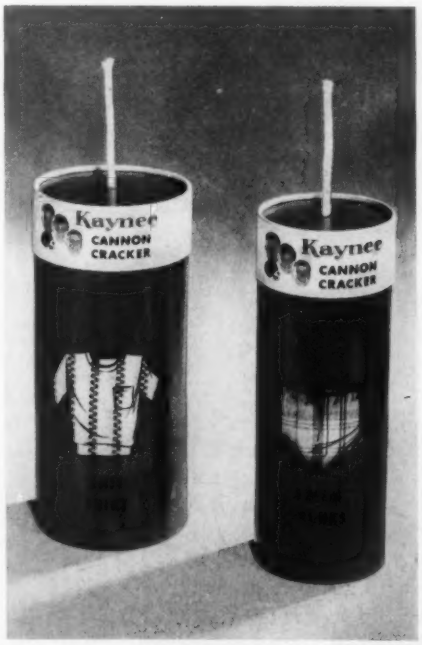
Instead, the company elected to use the service of an industrial and package designer to modernize Kaynee's personality and bring it to the attention of the consumer.

The designer found himself in practically virgin territory. There was no trademark and Kaynee did not even have a consistent logotype. Some ads, displays and packages carried only the name. Others had a symbol, in the form of a shield with a needle athwart it, which carried no message about, or

[*Continued on page 243*]

PHOTOS COURTESY ROBERT ZEIDMAN ASSOCIATES

Comparison of new box with old in the background illustrates effectiveness of the boy pictures for identifying the brand wherever the pictures are seen. Vignette heads of the three boys and the dog, as shown on end of box, promotional folder, tags and labels, is the basic trademark.



Seasonal specialties receive novelty package treatments such as these acetate tubes resembling a cannon cracker. Trademark assures quick recognition of brand. Clear areas on tube show color and texture of the garments inside.

Blintzes in foil

Appetite appeal
of full-color rotogravure printing
plus product protection of heat-sealed foil
win specialty food
a warm welcome in frozen-food cases

Full-color vignettes of cooked blintzes, rotogravure printed on new foil wrappers, and long, flat carton shape give distinction to the new packages.

Milady's Blintzes is one of a select group of "nationality" prepared frozen foods which has been successful in winning acceptance by the general public. A good share of the credit for this achievement, say executives of Milady Food Products, Inc., Brooklyn, can be given to a striking new rotogravure-printed foil wrapper.

Milady packs its five varieties of frozen blintzes four to a container, arranged in pairs set end to end. This makes necessary a distinctively shaped, long, flat carton—different in contour from the great majority of frozen specialties.

When the product first went on the market, a simple letterpress-printed carton with wax liner was used. However, this was found to offer very little protection against freezer burn, since there was no moisture barrier.

This package was soon supplanted by an unprinted carton covered with flexographic-printed cellophane, illustrated with a sketch of the contents. This type of container cut down freezer burn, but Milady was searching for something with greater consumer appeal.

The company's most recent selection is shiny aluminum foil, heat sealed tightly over the same long, flat cartons. The company says the package

Old package carried only line drawings, which the company felt failed to achieve the sales impact of a realistic, full-color illustration.

gives efficient protection against water-vapor loss and keeps the blintzes in top condition all the way to the consumer's kitchen.

An added attraction with the use of foil is the increased attention-getting power of the package. The new overwraps are designed with an appetizing vignette, reproduced by rotogravure in full color, showing how the blintzes will look when ready to serve. This illustration appears on the top of the package and bends around the front edge, with the back of the wrapper being reserved for preparation directions and promotion of other Milady products.

Blintzes, incidentally, are egg-leaf pancakes of Jewish origin, folded over fillings of various kinds and partially cooked. The housewife has merely to fry them for a few minutes to prepare them for the table. To help introduce the product to new customers, Milady adds the legend "Like crepes suzettes" on the front labels of all its packages.

Five varieties of blintzes are currently packed and for each type Milady has chosen a distinctive background color for the foil wrapper, with the remainder of package design being kept the same. For cheese-filled blintzes, green is used; for those filled with potato, copper; strawberry with cream, soft rose; blueberry, blue, and cherry, maroon.

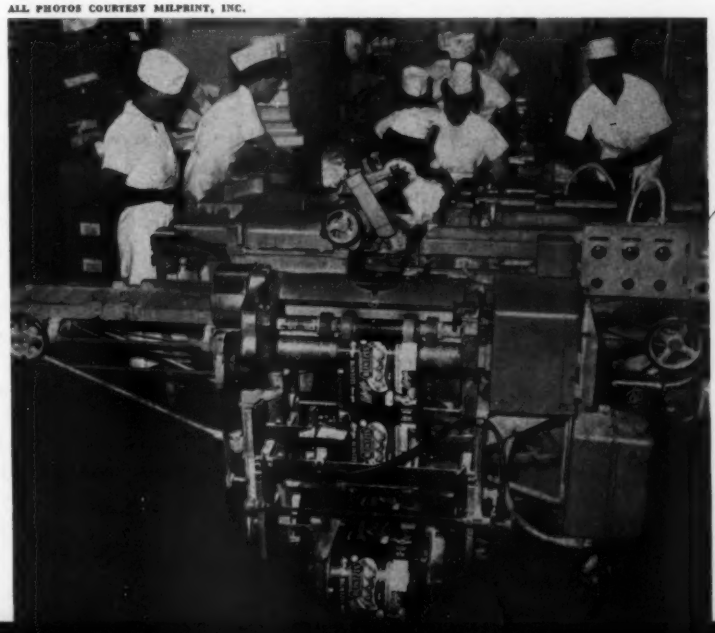
Two other products are sold in very similar foil-covered packages: potato pancakes, which have a gold and brown background, and potato dumplings (pirogen), with a gold background. The company also produces frozen corn fritters and waffles.

In the Milady plant, the blintzes, after being prepared, are loaded by hand in the unprinted cartons, which are supplied as blanks and automatically set up and closed. A second machine automatically wraps and heat seals them in foil.

The attractiveness of the new foil package is credited with getting the blintzes into the frozen-foods cases of many hitherto-skeptical grocers. In fact, since the adoption of the new wrapper, Milady says that its sales have jumped 32%.

Credits: *Wrappers designed and printed by Milprint, Inc., 4200 N. Holton St., Milwaukee 1, Wis.; using aluminum foil by Reynolds Metals Co., 2500 S. Third St. Louisville 1, Ky. Cartons by Berles Carton Co., 86 Fifth Ave., Paterson 4, N. J. Overwrapping machines by Battle Creek Packaging Machines, Inc., Battle Creek, Mich.*

ALL PHOTOS COURTESY MILPRINT, INC.



Packed carefully by hand, four blintzes are set inside each of unprinted folding cartons, which are supplied as blanks and set up mechanically. In foreground is foil-wrapping machine, on which long, flat blintz cartons are heat sealed.

Polyethylene bag safely holds dangerous sulphuric acid for dry-charged batteries. Adding electrolyte only at time of use extends battery's shelf life.

BATTERY

Double polyethylene bag inside metal-end fibre can safely holds sulphuric acid for filling Delco's dry-charged batteries

The remarkable chemical and physical properties of polyethylene film are nowhere more dramatically demonstrated than in the bag-in-box type of package for battery electrolyte (sulphuric acid), which is now recognized as one of the greatest improvements in years in automobile storage battery marketing.

It has made possible the widespread use of the "dry charged" type of battery, the liquid electrolyte for which is shipped and held separately until the battery is installed and ready to go to work, thus avoiding "running down" prior to use. This type of battery was perfected years ago, but simply wasn't practical because there was no disposable, unbreakable package that would safely contain the powerful acid. Glass was hazardous; metal would be eaten by the acid. It remained for a simple polyethylene bag to solve the problem.

The first solution, appearing about a year ago,* was a half-gallon polyethylene-lined corrugated carton which was in turn contained in an outer polyethylene bag as a safeguard. Now the Delco-Remy Division of General Motors Corp. has come up with a neater and more convenient package consisting, basically, of a double polyethylene bag within a heavy, metal-end fibre canister with a handy tear-string opening device.

To make the containers easier to handle, the acid is put up by Delco-Remy in 1.4-qt. and 1.7-qt. sizes, three of which are enough to fill a new battery, with each of the cartons holding the right quantity for one of the three cells of either a 12-volt or a six-volt battery. All the service station attendant has to do is pull the string to open the canister, pull out the free end of the double bag, snip off a corner with a pair of scissors and pour the acid in through an acid-resistant funnel.

This method has distinct advantages. When a battery is filled at the factory with electrolyte it will lose strength in transit and on the dealer's shelf, just as it will while in use in an automobile. For the dealer, this is both annoying and expensive.

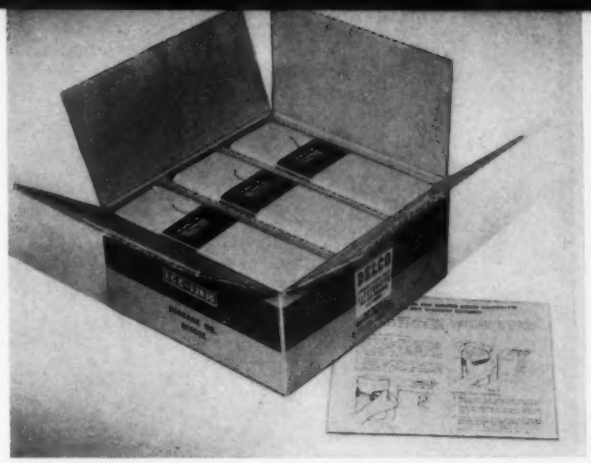
* See Modern Packaging, April, 1955, p. 192.

He has to use a "trickle" charger on batteries in storage. He must keep a very close check on his inventory and turnover. He needs to devote considerable time to the care, maintenance and preparation for service of acid-filled batteries. And the presence of the acid sometimes makes proper display inconvenient.

With the dry-charged type, most of these difficulties are eliminated. When the acid is packed separately, a battery becomes a stable shelf item requiring no more care than spark plugs, thermostats or seat covers. A wide variety of types and sizes can be stocked. Merchandise can be kept clean and in salable condition at all times and batteries can be displayed without complications.

In the Delco-Remy package, two separate bags carefully made from 0.004 polyethylene are used. These are delivered to Delco-Remy with the bottoms sealed.

One bag is fitted inside the other and the bottoms are glued to one end of each canister. This is to make sure that the bags will not slip from the carton during the emptying process.



Electrolyte needed for one 6- or 12-volt Delco battery—three containers, each holding 1.4 qts.—is packed together in corrugated carton, along with instruction sheet showing the correct way to fill the battery.

After the acid has been loaded into the inner bag, both top ends are electronically sealed and the top metal end is crimped on. This method of filling and sealing minimizes the chance of a "leaker" being shipped.

The canister is rectangular in shape and pro-

[*Continued on page 255*]

ACID IN A BAG

Tear string makes it easier to open metal-end fibre cans which enclose bags of electrolyte for Delco batteries.

Twin bags of heavy-gauge polyethylene glued inside the can hold battery electrolyte, whose active ingredient is sulphuric acid.

Heat-sealed ends of the polyethylene bags are cut open at one corner by user and the sulphuric acid is then poured out carefully through the aperture.

Labels tell what these "big ticket" polyethylene housewares are, leaving nothing to customer's imagination. Special racks like this supplied by Beacon Plastics Corp. help get prominent display for big basins and pans. Note polyethylene bag for set of three mixing bowls at top.

Dump displays for supermarket are another way of increasing impulse sales for housewares. Federal Tool Co. supplies store with complete assortment of point-of-sale materials, backs it up with prominently marked labels right on products.

HOUSEWARES

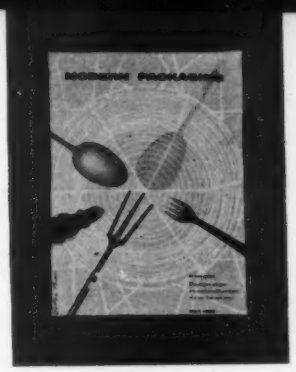
More than 20,000 items need the help of visible packaging and informative labeling to put them across in important new markets

Housewares does not define a neat, clearly recognized group of products. It includes all the 20,000 different sorts of home utensils used in eating, drinking, cooking, cleaning, washing, gardening, decorating and storing—everything from a clothespin to a complete dinette set or the kitchen sink. Perhaps the most practical definition is that of a veteran industry observer: "If you can buy it in Macy's basement, it's a housewares item."

But housewares have moved far beyond Macy's or anybody else's basement. With the tide of self-service merchandising, they have moved heavily into the super-supermarket, the super-drugstore and the super-5-and-10. And in the modern neighborhood hardware store they have taken a happy new lease on life—thanks to informative packaging and labeling that makes this department a colorful, traffic-stopping, self-selling money maker.

No industry has been pushed more rapidly from virtual ignorance of consumer packaging techniques into intense concentration on the subject. It is almost entirely a postwar development and the rack jobber, responsible for the servicing of housewares departments in many supermarkets and chain drug

Industry Survey



stores, has been largely responsible. With his direct knowledge of what will and what won't sell on sight, he has led manufacturers into modern packaging.

It should be borne in mind that in the case of housewares the "package" often is nothing more than a colorful, pictorial, informative label, such as is pasted in the bottom of a cake pan. But such labels are today prime examples of the kind of illustration and copy that catch the eye, suggest a use and motivate the impulse to buy—and as such they have a high degree of example value for other packagers who are more influenced by convention and custom.

Housewares Review estimates that last year's retail sales of all housewares (including small electrical appliances) were about $2 billion. Sales have increased at a steady rate over the last 10 years and the industry's future looks increasingly bright.

Many of the significant trends in today's living—economic prosperity, the exodus to the suburbs, the "do-it-yourself" fad, the increase in outdoor eating—point toward continued demand for housewares. Not to be overlooked is the influence of population trends and living habits. The wave of postwar marriages and the splitting up of combined homes created millions of new homemakers who were prime targets for supermarket displays of housewares. Continued high marriage and birth rates, plus the trend to larger families, maintain steady demand for more and larger pots and pans.

Since they yield the supermarket operator a much higher margin of profit than do most conventional food products, housewares' invasion of the food store has been particularly swift.[1] In addition, they offer something which many other non-food products do not: interesting tie-in possibilities, such as cake mixes with baking pans.

Today, says *Super Market Merchandising*, no less than 88.4% of all supermarkets carry a housewares line. And sales in these outlets, which have tripled since 1951, are variously estimated to run now from $200 to $300 million a year.

In this type of selling—in the supermarket and other types of self-service outlet—packaging has been, as usual, called upon to carry the load. Many manufacturers, seeing the tremendous job of selling

[1] See "Super-Selling Housewares," MODERN PACKAGING, Dec., 1954, p. 101.

Packaging of every kind can be seen in this giant housewares department in the Safeway supermarket in Fairless Hills, Pa. But there are many products just lying on the shelves without even a label to tell the shopper what they are.

PHOTO COURTESY CHAIN STORE AGE, GROCERY EDITIONS

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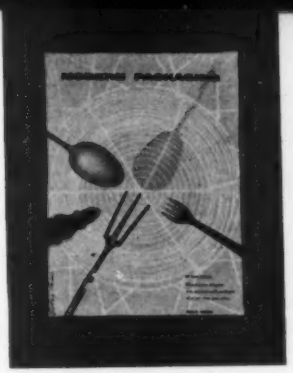

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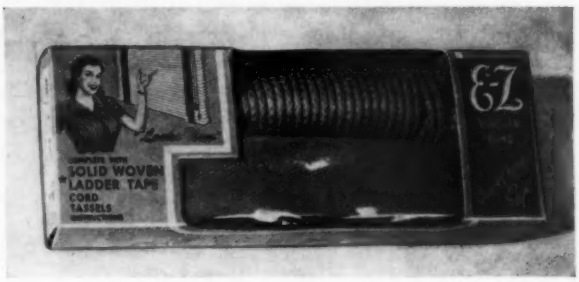
PHOTO COURTESY CHAIN STORE AGE, GROCERY EDITIONS

Pictures sell the results

Illustrations on Foley housewares win attention, promote impulse sales. Note how same photograph has been adapted for three labels.

Four uses for this Mirro roasting pan are illustrated on label by means of color shots of foods ready for the table.



Identification of nondescript-looking venetian blind cord set is made possible by simple sketch showing how it looks in use.

which good packaging can do, have quickly seized the initiative and developed packages and labels which attract attention to, explain and, if necessary, protect the merchandise. But other housewares companies, for whom this marketing revolution has sprung up virtually overnight, are still floundering. The housewares field, which includes some of the largest, heaviest and most oddly shaped products currently sold via self service, still offers many challenging problems for packaging ingenuity.

The rack jobber

The key role in the great influx of housewares into the super-store has been played by the rack jobber (also known as a "rack merchandiser" or "service distributor"). As housewares departments have become increasingly larger, the rack jobber's specialized knowledge and services have been of ever greater assistance in making them successful.[2]

He supplies an assortment of housewares items directly to the supermarket floor on a guaranteed-sale basis; is responsible for displaying and pricing them; orders and delivers replacement merchandise, and keeps the display racks in top condition. Especially for the smaller operator, whose knowledge of the complexities of housewares buying and merchandising is limited, the rack jobber serves a very useful function. From the housewares manufacturer's viewpoint, he is an invaluable source of guidance on packaging requirements. Most jobbers are convinced that their success depends on good packaging and the American Rack Merchandisers Institute has been active in this connection. The ARMI now sponsors an annual packaging competition.[3]

Packaging principles

Some housewares are large enough, colorful enough, sturdy enough and familiar enough to need virtually no "packaging" as such. However, every item that is to be sold by self selection needs at least an attractive and informative label that will serve the same selling purpose as an over-all package.

Where packaging protection is required, many techniques can be employed to protect the product,

[2]See "The Rack Jobber's Viewpoint," MODERN PACKAGING, July, 1953, p. 81.

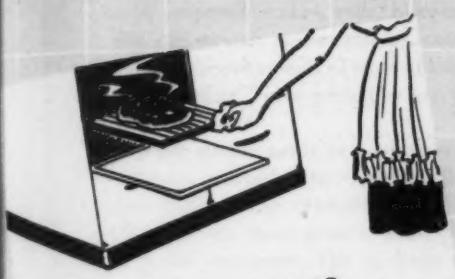
[3]See MODERN PACKAGING, March, 1956, p. 374.

PURE ALUMINUM

Jumbo Broiler for Steaks

Smooth Seamless Pan • Size 10" x 14"

EASY TO CLEAN . . . KEEPS YOUR OVEN CLEAN



USE UNDER BROILER... NOT on Top of Stove

No more work and drudgery of handling big broiler pans!

THIS 3-PURPOSE UTENSIL... Broils..Bakes..Cools

1. **Broils steaks, chops, bacon, fish and sausage—to perfection!**
2. **Toasts bread and Bakes rolls and muffins!**
3. **Use the rack for cooling cakes!**

Bake King

KING OF BAKE WARE

MANUFACTURED BY
CHICAGO METALLIC MFG. CO.
CHICAGO 9, ILL.

PURE ALUMINUM

Turbo Broiler for Steaks

yet retain as much visibility as possible and explain and "sell" its uses in as simple and dramatic a way as possible.

One of the most successful trends in the labeling of otherwise unpackaged housewares has been the use of full-color illustrations showing how they can be used and what results they can achieve. For kitchenware, these depict the appetizing foods that can be prepared—cakes, rolls, biscuits, pies, etc.

For self service, housewares packages must fulfill the special requirements of each of the several types of retail outlets. These principles are, by now, quite well established.[4]

For the special needs of housewares in self-selection stores generally, the American Rack Merchandisers Institute has crystallized its thinking about packaging into these general principles:

▸ *For the consumer.* The package must keep its item *clean;* it must *show it clearly;* if re-usable, it must *open and close* easily; it must *tell and illustrate* all essential facts about the item; it must carry an illustration of the product *in use;* it must accommodate *odd-shaped* items.

▸ *For the store operator.* The package must be easy to *stack,* stand *without support,* lend itself to *attractive display,* be *strong* enough to resist the abuse of self service, discourage *pilferage,* conserve *space* and be expressly designed for the *distinctive* size and shape of the item.

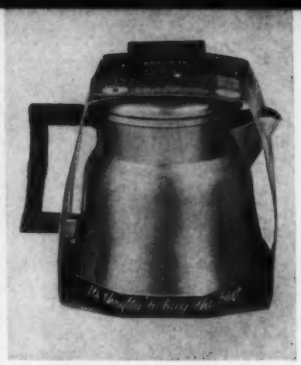
▸ *For the rack jobber.* The package should be provided with white space for *price marking;* proper *consumer-sized units* should be determined; *shelf cartons* and *shipping cases* should be designed to help sell their contents.

Two growing trends

Outside the self-service sphere, two packaging practices for housewares are gaining in importance: increasing the unit sale and upgrading the package itself. Housewares manufacturers have long been selling such things as a set of four kitchen canisters or a place setting of tableware. With this as a starting point, the "set" idea has been gaining both length and breadth.

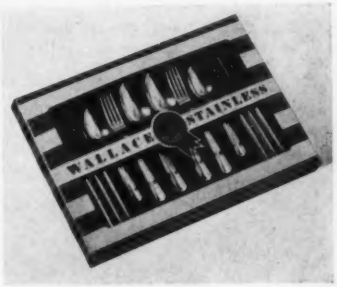
Now, the kitchen-utensil set is not limited to just four canisters. It may also include a matching bread box, cleanser cabinet, towel dispenser, cookie jar, waste basket, garbage can, tray, etc. The place setting may be extended to become a complete picnic kit, with tableware, serving pieces, cups, plates, etc., all packaged together in a polyethylene bag. And sets of such things as a full line of bathroom accessories, complete assortments of drapery hardware or a group of matching closet fixtures are becoming increasingly popular. This places great importance, of course, on well-designed and well-constructed dis-

[4]See "Hardware," Modern Packaging, Sept., 1952, p. 99; "Meeting the Self-Service Trends," April, 1953, p. 115; "The Check-Out Drug Store," Feb., 1954, p. 83; "The Self-Selection Department Store," May, 1954, p. 99; and "Check-Out at the 5 and 10," Oct., 1955, p. 97.



Odd-shaped products, such as these two coffee percolators, often challenge the packager's ingenuity. Mirro (left) uses narrow wrap-around label and instruction booklet tied to handle. Wear-Ever uses one-piece paperboard collar which locks around handle to keep parts together.

Two ways to sell tableware



Large sets of Wallace stainless steel are packed in colorful candy-striped window cartons, with 24 or 32 pieces locked in place in the die-cut platforms.

Small sets of company's stainless are sold on cards under thermoformed "blisters." Selling is simplified for self service by use of standardized price, hang-up hole on card.

Pictorial labels using full-color illustrations for Chicago Metallic Mfg. Co.'s steak broilers have powerful appetite appeal. Housewares which are used for the preparation of foods are "naturals" for grocery-store tie-in selling.

COURTESY CHICAGO METALLIC MFG. CO.

Thermoformed bubbles of transparent plastic are seeing increased use for small carded products, such as this kitchen thermometer and faucet attachment. Cards give added display to small, awkwardly shaped items and cut down on pilferage.

play cartons and packages that clearly show the customer all they contain.

The second growing trend—upgrading the housewares package—stems directly from the improving quality of housewares themselves. With better-quality products, there is more purchasing of housewares as gifts. And many housewares manufacturers have been quick to seize upon this trend and make their packages as attractive as possible, using such things as full-color lithographed cartons to lend a touch of glamour to utilitarian items.

An excellent example of both these trends is the new group of cartons introduced recently for Revere Ware, which combine several different kinds of pots and pans into sets that are packed in colorfully printed corrugated boxes.[5]

Glue-on label is supplied in each carton of Boontonware plastic dinnerware. Retailer can affix it to pop-up section of corrugated display container, as shown, using four-color reproduction of the company's national advertising to get extra attention.

Typical new packages

The list of noteworthy examples of both redesigned and entirely new packages introduced in recent months by housewares manufacturers is a long one. Because of the extreme diversification in the field—in size, shape, material and price level of products, as well as in the different requirements of the retail outlets to be used—there are very few hard-and-fast rules or traditional packages to be encountered. Each packager has usually had to analyze his own product and chart his own course.

Here, very briefly, are a few glimpses at the kinds of things which are being done:

R. Wallace & Sons. Stainless-steel tableware in acetate-window boxes holding sets of 24 or 32; smaller groups of tableware in thermoformed "blister" packages.

Federal Tool Corp. Small housewares on rack cards, covered with polyethylene bags; plastic plates in sets overwrapped with cellophane.

Lincoln Metal Products Corp. Step-on cans with labels using fluorescent ink to get attention; "to-and-from" cards for gift use.

Oneida Ltd. Stainless-steel flatware in attractive gift cartons which can be re-used as silver chests.

Aluminum Goods Mfg. Co. Four-color labels for pots and pans, showing the foods that can be cooked in them.

Beacon Plastics Corp. Large polyethylene housewares with colorful labels and polyethylene film

[*Continued on page 253*]

[5]See "Paul Revere Rides Again," MODERN PACKAGING, Oct., 1955, p. 113.

Realistic reproduction of contents is a feature of the new wrap design on foil. Natural silver color of the foil adds sparkle above the slanting white band with "Cracker Jack" in red.

Cracker Jack in foil

The famous triple-sealed package gets longer shelf life, new sales appeal with colorful, heat-sealed foil wrap

Adoption of a sparkling new aluminum foil overwrap featuring appetite appeal, replacing the traditional waxed paper overwrap used on this product since 1940, marks the newest packaging milestone in the history of Cracker Jack, a favorite popcorn confection with an illustrious packaging career going back more than half a century.* Coincident with announcement of the new foil wrap, the product moves into the 10-cent price range, after holding the line at 5 cents throughout its history.

Along with the colorfully printed new heat-sealed foil wrapper, the Cracker Jack Co. announces that new toys, having greater variety, are now being supplied with the confection. As in the past, the toys are enclosed in sealed paper packets within each carton. In addition, the product itself has been given added taste appeal by a new formula under which one-fourth of the net weight is made up of peanuts.

Formerly, peanuts had been combined with the popcorn prior to packaging, making it impossible to control accurately the number of nuts going into each carton. Under the new system, a volumetric filler feeds the desired number of nuts into each carton separately as a distinct stage of the packaging operation. This is accomplished without slowing down the speed of the multiple packaging lines.

* See "Cracker Jack," *Packaging's Hall of Fame*, MODERN PACKAGING, Oct., 1952, p. 98.

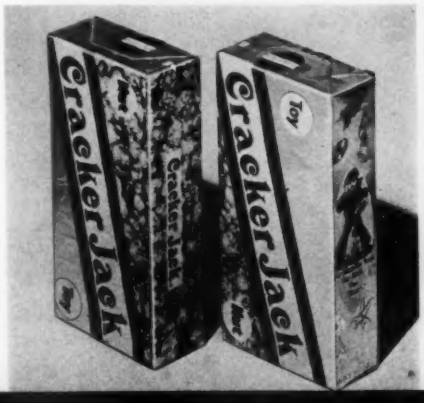
Except for adoption of the foil wrap, there is no basic change in the construction of the Cracker Jack package. Long noted for its high degree of product protection due to the "triple-sealed" feature, the package utilizes an interior folding carton which is overwrapped in heavily waxed paper, heat sealed, dipped in wax, then given the final heat-sealed overwrap on high-speed automatic equipment. Even greater long-term freshness is now claimed.

In design, the new wrapper marks a fairly pronounced change from its predecessor, with the blue-clad sailor boy and his dog, Bingo, which have long dominated one principal display panel, shifted to one of the side panels of the package.

On the new wrapper, appetite appeal is brought into play for the first time on a Cracker Jack package with appetizing product vignettes which are used in conjunction with the familiar Cracker Jack logotype, running diagonally across the package and set off by vivid red bands. The design of the wrapper is such that the product illustration wraps around the package without interruption.

Credits: *"Reyseal" heat-sealing aluminum foil overwraps by Reynolds Metals Co., 2500 S. Third St., Louisville 1, Ky. "Spee-Dee" automatic filling machines for filling nuts into packages by Spee-Dee Packaging Machinery Corp., Div. Paul L. Karstrom Co., 1818 W. 74 St., Chicago.*

Wrap-around design carries eye around package. Note that famed trademark is relegated to side panel.

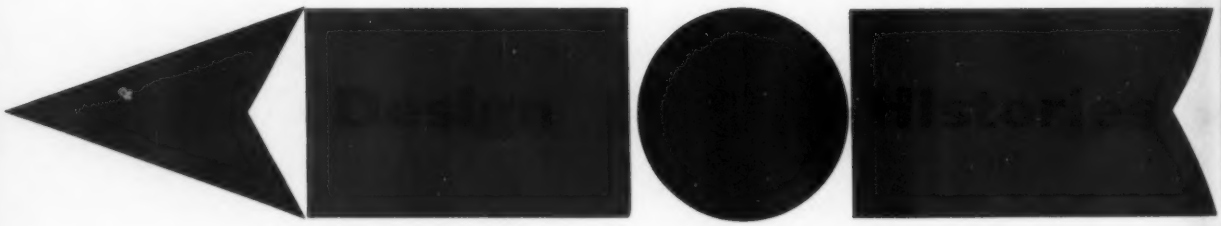


Aerosols squirt out concentrated soft drinks

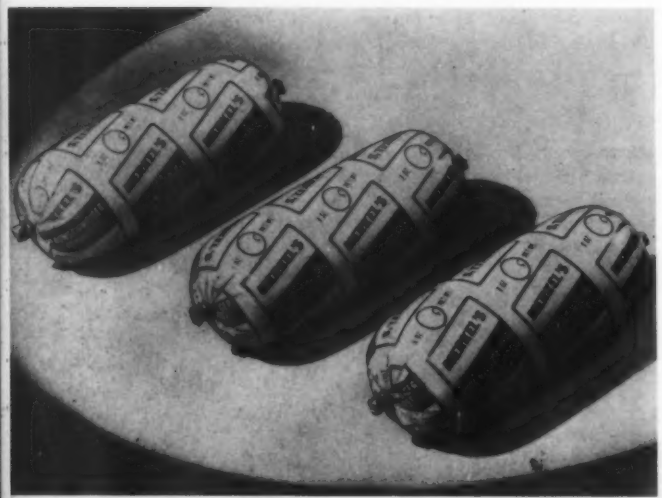
Seven flavors of soft-drink concentrate are being marketed in newly developed 16-oz. aerosol containers by C. C. Lang & Son, Inc., under the brand name, "Real Kool." Each can contains enough concentrate to produce about 18 seven-ounce glasses of beverage. The user simply squirts out about a tablespoonful of concentrate for each drink, mixes it with either tap or sparkling water and adds ice cubes. The product does not require refrigeration and no additional sweetener is needed.

Designed especially for appeal to children, the dome-topped multicolor lithographed metal aerosols offer a choice of orange, grape, lemon-lime, cola, root beer, strawberry or black-cherry beverages. The cans are being test marketed at a retail price of 39 cents, with national distribution slated for June 1.

Credit: *Cans by American Can Co., 100 Park Ave., New York 17.*



Laminated saran tubes protect liverwurst



A newly introduced printing and laminating technique has been adopted by Merkel, Inc., for multicolored plastic tubes to package Snow Goose liver sausage and Braunschweiger liverwurst. The covering consists of two layers of saran film laminated with a specially developed adhesive to give double-strength protection against moisture and oxidation.

Rotogravure printing on the inside of the outer film locks the inks between the two layers. The inner layer is made of clear saran. The two are fused together. Since the ink is locked in between, there is no danger that it will be affected by fats or oils in the meat product, or that it will discolor the contents. The construction of the laminate also prevents rough handling from obscuring or defacing the label and foreign matter can not enter between the two layers.

Credits: *Saran film by Dow Chemical Co., Midland, Mich., printed by "Saran-O-Lam" process by Printon Corp., 304 E. 23 St., New York 10.*

Metallized plastic miniatures give golden touch

Miniature, gold-colored replicas of a coach, a typewriter, a clock and a telephone are the unusual packages in which glass bottles holding four different fragrances of perfume sold by Benjamin Ansehl Co. are now enclosed. Designed to catch the eyes of perfume customers with their novelty appeal and brilliant gold color, the new packages are sold principally on variety-store counters. The golden miniatures are injection molded of high-impact polystyrene and metallized by the Ansehl Co. itself, using a stencil process which the company says it has perfected.

Benjamin Ansehl Co. has also introduced a new private-mold "picture-frame" bottle for men's aftershave lotion and hair dressing which is also metallized in gold, with a white reverse label.

Credits: *Bottles by W. Braun Co., 300 N. Canal St., Chicago 6. Miniatures by Fenco Mfg. Co., Akron, Ohio, using Catalin Corp. styrene.*

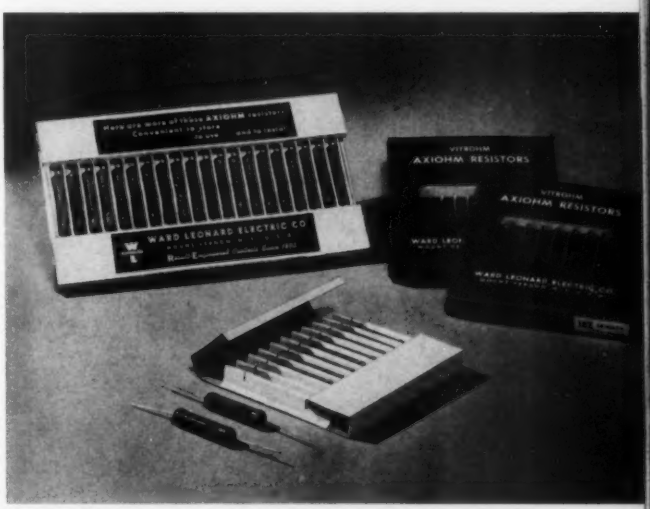
Design Histories

Spring-clip paper partitions hold resistors in place

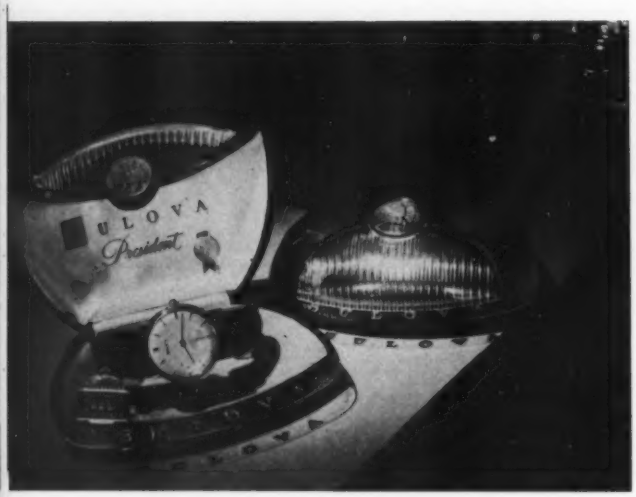
A special kind of protection was required by Ward Leonard Electric Co. for its Axiohm resistors, which have ceramic cylindrical bodies with a lead protruding from each end. To protect both body and leads, the company now uses patented spring-clip-type paper partitions and a system of double slots.

Each resistor is held within a fluting which is longer than its actual body. Two slots are cut across the row of flutings, one near either end of the ceramic body, and the extended bottom of the tray is folded up on scored lines and inserted into the slots. This locks the bodies in the center of the pack, while the folds completely cover and protect the leads, displaying and holding the resistors at the same time. The tray is placed in a printed folding carton with a transparent window, holding 10 resistors. For bulk shipments, a second tray of 20 resistors is similarly packed.

Credit: *Spring-clip partitions by American Rondo Corp., Hamden, Conn.*



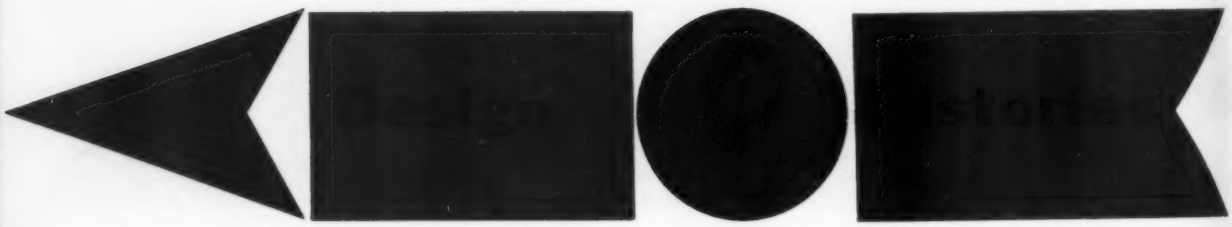
Clear polystyrene spotlights watches on display



The Bulova Watch Co. believes it has achieved a new technique in the use of plastics for jewelry presentation with the new package for its "President" series of watches. The box is produced of navy blue and clear transparent polished polystyrene, welded together, the company says, by means of a newly developed, two-stage molding process. The transparent plastic section is designed to catch overhead light and channel it through the cover to spotlight the watch when the box is open for display. Centered on the cover of the case, as well as on the inside, is a round seal bearing a reproduction of Presidential-type eagle. Extremely fine detailed engraving is reported to have been used in producing the dies for this seal.

The watch itself is seated on a velvet cushion against a backdrop of white satin displaying the name.

Credit: *Containers by Arrow Mfg. Co., West New York, N. J.*



Chlorine dry bleach in a folding carton

Purex Corp. blazed a new trail three years ago with the introduction of its chlorine dry bleach in an easy-to-handle light-weight glass jar with a sprinkle top—a departure from the long-familiar liquid bleach. Now the company has gone a step further and packed dry bleach—reportedly the first time for this type of laundry product—in a folding carton. Available in 18- and 33-oz. sizes, the cartons hold Beads O' Bleach, a new bead-form Purex bleach, which will also be packed in glass jars holding 6¼, 12 and 19 oz.

Consumer research, says Purex, found that housewives would prefer a carton for use and storage of bleach and, after a year of testing, the company believes it has found a carton which will assure adequate shelf life for the product. Carton perforations permit either pouring or sprinkling.

Credits: *Cartons by Fibreboard Products, Inc., 1789 Montgomery St., San Francisco 11, and Alton Box Board Co., Alton, Ill.*

String-opening carton for mailing books

One of the big problems encountered by book clubs which mail a monthly selection to their members is that of returns of unwanted books. When members receive a book they decide not to read, they simply send it back to the club, causing much excess handling and extra postage charges.

To reduce this problem, the *Reader's Digest* Book Club has started to use a package that cannot be re-used once it is opened, making the return of a book more of a chore. The new carton is a rigid paper canister with metal ends and a colorful wrapper that simulates the actual book jacket on front and sides, with postage imprint and addressing space on the rear surface. A tear string imbedded between the plies can be pulled to cut through the carton so that one end of it may be removed.

Credit: *Cartons by Harcord Mfg. Co., 125 Monitor St., Jersey City 4, N. J.*

'Open-front' carton aids self service for Thermos

A simple change in a package sometimes can be of great help to win sales for a product in a new type of retail outlet. With the increasing spread of self service in the variety-store field, American Thermos Bottle Co. has introduced a new version of its carton aimed squarely at this target. The previous package, a simple folding carton, had to be opened to discover a bottle's type and design.

To eliminate this problem, the company simply made a contoured die-cut opening in the front panel of the carton, large enough to give a full view of the bottles inside. Strong brand identity is maintained by the "Thermos" trademark on the bottle itself. Brand name has been increased in size on the carton. Two colors of cartons are used, red for standard-neck Thermos bottles, blue for spoon-mouth bottles.

Credits: *Cartons shown by Atlantic Carton Corp., Norwich, Conn. Design program by Martial & Bars Associates, 32-20 35 Ave., Long Island City, N. Y.*

Stepping up productivity

Oelerich & Berry's problem was not merely lack of space, but the shape of space; their solution offers tips to any packager held down by plant limitations

How to boost output of Old Manse jams and jellies, preserves and syrups in these distinctive packages was chief concern of Oelerich & Berry Co. in its program of integration of packaging facilities to make better and more efficient use of existing factory floor space.

Many a company, at one time or another, faces the problem of stepping up production and packaging operations within an existing plant facility without adding any new plant space. Obviously, this calls for more efficient integration of production and packaging lines, improved methods of handling packaging materials and finished products within the plant and—in many instances—the installation of new and faster types of packaging equipment.

All of these approaches have been utilized by Oelerich & Berry Co., Chicago, as part of its continuing program to increase output of jams, jellies, preserves and syrups produced under the long-established Old Manse brand. Under the direction of Donald Oelerich, this improvement program has been carried out in orderly stages and with a minimum degree of production interference.

Complicating the entire modernization activity was the fact that Oelerich's four story and basement building, constructed in 1911, has an unusual "wedge" shape, being flanked by a railroad spur track on one side and a busy traffic artery on the other—an arrangement leaving no exterior space available for expansion. These physical limitations presented a real challenge in packaging-line layout and equipment selection to obtain the greatest possible production within the amount of space available.

Oelerich & Berry Co. puts up more than a dozen flavors of preserves and jellies in 12- and 20-oz. special-mold jars having a distinctive, easy-to-grip design. Preserves are also packed in a re-usable 10-oz. old-fashioned-style glass tumbler; the same type of container, in an 8-oz. size, is used for jellies. All of these packages utilize attractively lithographed pry-off-style metal closures. Oelerich's popular Old Manse table syrup, handled on a separate packaging line, is supplied in graceful special-mold bottles containing 12 and 32 oz. of the product. These bottles, topped by screw-type metal closures, have printed cellulose neck bands which provide a tamperproof seal and enhance their appearance on the food-store shelf. In addition to the products packed under the Old Manse brand name—which, incidentally, dates back to the early days of the organization more than 75 years ago in Louisiana—Oelerich & Berry puts up six flavors of apple-base jams under another brand name (Fruit Maid) in 20-oz. and 2-lb. glass containers and No. 5 friction-top cans.

At the outset of its packaging modernization program, Oelerich & Berry Co. was utilizing a six-spout filler for the glass containers of jellies and preserves. Also installed on the same line were two turret-style labeling machines which applied glued labels to the packages. Sealing of the corrugated shipping cases, which hold 2 doz. unit containers, was per-

formed by hand. Under this set-up and with the production facilities then available, maximum output ran approximately 1,200 cases of jellies and preserves per day.

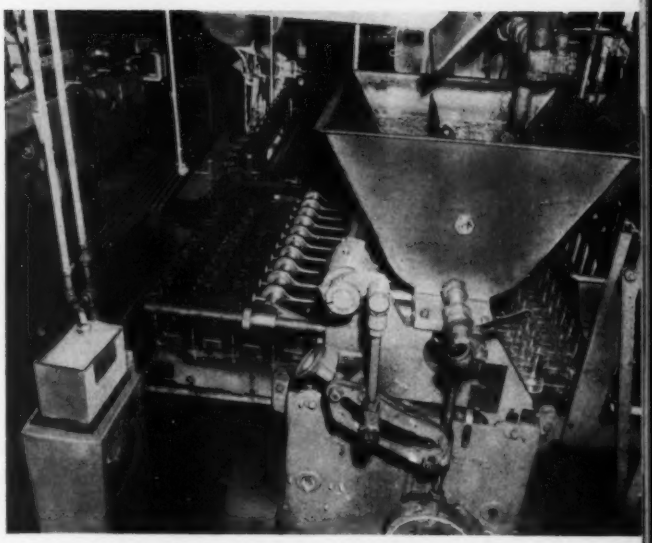
The first step taken in modernizing this packaging line involved the installation of a compact, highly efficient case sealer which measures only 14 ft. in total length and has a capacity of from seven to 14 sealed cases per minute. The compression section of the sealer is 36 in. long. Very tight space restrictions existing in this department made it imperative that the sealer occupy as little floor area as possible.

Next, Oelerich replaced the six-spout filling unit with a new 10-spout machine which stepped up the speed of the filling operation to a maximum of around 190 glass containers per minute. The filler previously used on this line is now employed for filling No. 5 cans having a friction-style lid. This unit forms the nucleus of a projected additional packaging line to be installed in the future.

With the installation of the new high-speed filling machine, Oelerich's packaging-line bottleneck was shifted to the labeling operation. This was overcome by installing a new high-speed thermoplastic labeler capable of handling up to 300 containers per minute. Following installation of this piece of equipment in June, 1954, modifications were then made in the cooler section, through which the bottles pass before being conveyed to the labeling machine, to keep pace with the faster operation of the entire packaging line. Improvements in this stage of the packaging process involved the development, in cooperation with Oelerich's metal cap supplier, of an improved and faster method of transferring the filled and capped bottles from the conveyor line into the cooler section. By means of an automatically actuated push-off bar, a 16-jar column of containers is slid simultaneously into the cooler.

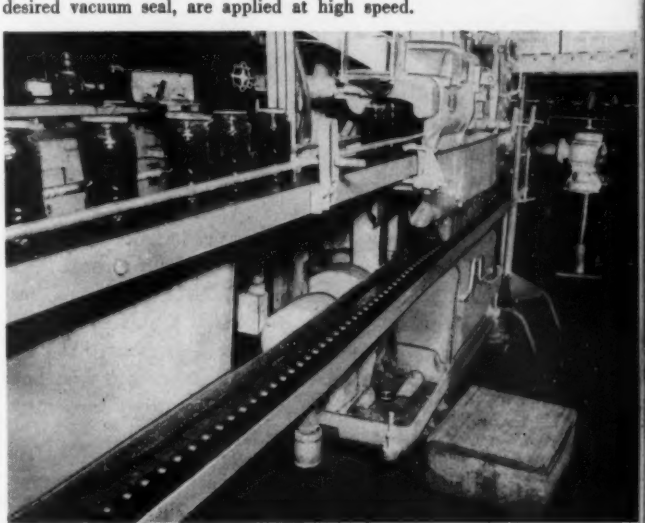
Prepared product flows by gravity from the new stainless steel cooking kettles located on the fourth floor of the building, after being pumped into cooling jackets. When the liquid product reaches the bowl of the filler on the floor below, its temperature is approximately 190 deg. F. Glass jars are dumped from the reshipper corrugated cases onto a conveyor belt which routes them to the filling machine. The empty shipping cases are then carried across the line via an overhead roller conveyor so they are conveniently available for the casing operation.

The smooth operation of the new filling machine, as it transfers filled containers to the conveyor which carries them through the automatic capper, has been credited by Donald Oelerich with effecting savings of up to $10,000 per year through elimination of product spillage and waste at this point. Prior to modernization of this line, the lithographed metal caps were periodically dumped into the feed hopper of the vacuum capping machine. In the present installation, this operation has been eliminated through the use of several large mobile automatic feed hoppers, located on the fourth floor, which feed caps directly to the capping machine as required through a chute through the floor. Each



10-spout filler steps up handling of preserves, jams and jellies, without spillage, to around 190 containers per minute. Product is delivered to supply tank of machine directly from processing department on floor above. Metal fingers effect smooth transfer of filled jars to conveyor which carries them to the capper in background.

Capping machine, fed by delivery chutes from king-sized hoppers on floor above, eliminates manual loading of lids. Pry-off-type metal lids make use of jet of steam during application to obtain desired vacuum seal, are applied at high speed.



Full-row sweep of capped containers are transferred simultaneously to cooler by cam-activated, push-off arm. Continuous water sprays cool filled-and-capped packages preparatory to labeling. Cooler accommodates 2,000 containers at a time. Carried on metal mesh belt, they emerge from far end of cooler.

Thermoplastic labeler of straight-line design and fully automatic afforded additional space for case loading. By progressive system, finished packages are placed in corrugated boxes holding 24 containers each, which move by belt to roller conveyor and case sealer.

hopper is used for feeding one size of cap only.

Upon emerging from the capper, the filled containers move directly to the spray-type cooler, which accomodates up to 2,000 containers at once. Here, to speed up cooling of the product and to insure a secure seal of the lid, the bottles pass through a series of overhead sprays whose temperature is gradually stepped down to avoid possible container breakage. The conveyorized trip through the cooler section takes approximately 19 minutes, after which the bottles, re-formed into a single-file arrangement, are conveyed directly to the automatic labeler.

In changing over to a new labeling machine to handle thermoplastic rather than glued labels, a switch was made from a turret-type to a straight-line design, which afforded additional space for the case-loading operation. Previously, the labeled containers were conveyed to an accumulator table where a group of six operators individually packed the bottles in the partitioned shipping cases. With installation of the new high-speed labeling machine, a change-over was made from individual to progressive case packing, in which the opened cases move without interruption past operators on both sides of the packing line. Under this arrangement, each operator places several of the bottles in the case as it moves past, insuring a smooth flow of cases paced by the output of the labeling machine. The change to progressive packing has made it possible for the line to handle approximately 30% more cases, with a team of four operators, than formerly was achieved with six, freeing two operators for other plant duties.

Even earlier, when the plant's production ran approximately 1,200 cases of preserves and jellies per day, it was not possible for one man to seal the shipping cases manually and truck the filled cases to warehouse areas within the plant. With installation of the automatic case sealer and other packaging-line improvements, paving the way to a maximum potential output of 2,500 cases per day, the transfer of finished cases to warehouse areas was still too large an operation to be handled by a single operator using a hand truck.

This final bottleneck was broken through the installation of an extensive roller conveyor system, which completely eliminates the necessity of moving cases around in the plant by hand truck. Cases now flow smoothly to the desired plant areas over this conveyor system, which incorporates approximately 1,000 lineal feet of conveyor and includes numerous switch points so that all warehouse and shipping-dock areas are immediately accessible to

the system. Cases stored in warehouse areas are never more than 9 ft. from a section of the conveyor. A total of eight "boosters"—electrically powered inclined rubber belts—located strategically throughout the conveyor system keeps cases on the move; each time a case is elevated 50 in., it will travel an additional 90 ft. along the conveyor by gravity. According to Donald Oelerich, carrying out of the entire expansion and packaging modernization program would not have been possible without the conveyor system. Branches of the system carry cases directly to the company's two truck-loading docks or the rail spur loading dock, as required.

Label modernization has played an important role in Oelerich's revitalized packaging program. Whereas a few years ago only about 40% of the company's products bore the Old Manse brand name, today the great bulk of all Oelerich & Berry products are packed under this brand. The attractive new labels have been redesigned to emphasize this name, along with the phrase "Old Fashioned" and the specific product name, with the company name subordinated. This marks a departure from an earlier design concept, followed for several years, under which products were sold under several brand names, including Old Manse, all of which were subordinated to the Oelerich name.

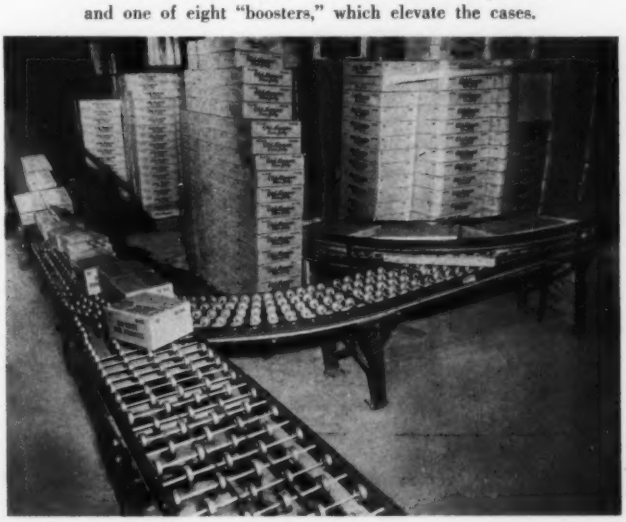
Parallel improvements have been made in connection with the Old Manse line of table syrup. A few months ago, Oelerich & Berry discarded the round 12 and 32 oz. stock bottles used for this product in favor of distinctively designed, easy-to-hold special glass containers having greatly increased sales appeal, labeling area and display impact. These containers are handled on a remodeled high-speed line which includes a 22-spout rotary filler, a four-chuck rotary capper for the lithographed screw-type metal caps and a labeling machine capable of applying the glued labels at a maximum rate of 150 bottles per minute. After being capped, the bottles are given a tamperproof seal by manual application of shrink-type cellulose neck bands. A progressive case-loading system is also used on this line for increased efficiency. After passing through the automatic case sealer, the cases flow by conveyor to a warehouse area in the basement.

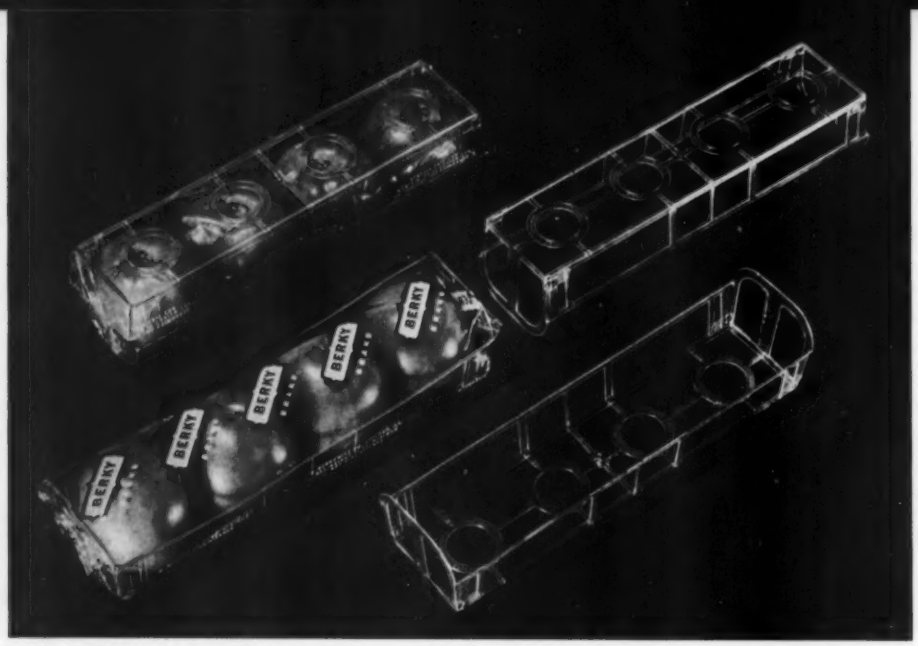
As a result of the installation of the new processing kettles on the fourth floor, the Oelerich plant now finds itself capable of producing a greater volume of preserves and jellies than can be accommodated on the present packaging line, despite the many improvements recently carried out. Future plans call for the installation of a second packaging line, as mentioned earlier. In order to free sufficient area for this line on the third floor of the building, it is planned to clear out the space now used for storage of incoming cases of glass containers. Com-

[*Continued on page 233*]

Compact case sealer, measuring only 14 ft. in length, handles seven to 14 cases per minute. Printed areas on box flaps restrict distribution of adhesive, to facilitate opening of cases. Upon leaving compression section, sealed cases leave packing department via roller conveyor and chute passing through the floor.

Conveyor system eliminates the movement of cases around plant by hand truck. Roller system of about 1,000 ft. puts gravity to work carrying finished cases to storage areas and to truck and rail loading docks. Photo shows one of the numerous transfer points and one of eight "boosters," which elevate the cases.





Full visibility plus excellent rigidity of economically molded polystyrene tray, overwrapped with printed cellophane, enables Berky tomatoes to command a premium price. Plastic trays have captured 70% of the pre-packaged tomato market in Chicago.

Plastic-trayed tomatoes

Berky proves consumers will pay a premium of 3 to 5 cents per package for the privilege of inspecting four tomatoes on all sides for ripeness

Consumer resistance to "blind packaged" tomatoes is giving unusual impetus to plastic containers in which tomatoes may be examined from all sides to determine whether they are uniformly ripened.

One development, which has already captured a major share of the repacked-tomato market in certain areas, uses a mesh molded plastic basket overwrapped with cellophane. A specially adapted overwrapping machine makes the latter operation virtually automatic.

Berky, Inc., Chicago, one of the nation's largest repackers, now packs approximately 80% of its tomatoes in the economical, high-visibility plastic trays and, according to this company, about 70% of all pre-packaged tomatoes sold in the Chicago market make use of plastic trays of one type or another.

In Detroit it has been estimated that currently about 50% of all pre-packaged tomatoes are being sold in cellophane-overwrapped plastic trays. In Indianapolis and Louisville, Ky., the percentage is only slightly lower, while in the East the trend is picking up. It is significant to note that the tomatoes in plastic trays usually command a premium of from 3 to 5 cents over paper-tray-packed fruit in the retail outlets.

The popularity of the plastic trays with consumers as well as store buyers stems from one basic factor—greater consumer satisfaction. In contrast to various types of paperboard trays used for overwrapping tomatoes, the plastic trays permit the fruit to be inspected visually from all sides—including the bottom—prior to purchase. Since this type tray obviously gives the packer no opportunity to conceal scars, soft spots or other flaws in the tomatoes, consumers can buy with full confidence. The plastic trays enable rejections to be made at the store level.

Working closely with an Eastern plastics molder, who spent considerable time and money studying the specialized design requirements of a plastic tomato tray, Berky, Inc., first used the new type tubes only for fruit packed under its own brand

name. Later, as important retail food organizations became convinced of the soundness of this visible packaging approach, they began supplying Berky with their own printed cellophane wraps for private-brand tomatoes packaged in this manner.

Sales figures tell the dramatic story of Berky's own favorable experience with this type of tomato package. In 1951 this company packed 3,346,620 cellophane-overwrapped paperboard trays of tomatoes. This figure declined to 2,863,580 trays in 1952 and sank to 2,105,050 trays in 1953. In 1954, when Berky first began using the new molded plastic trays, 2,230,585 trays of this type were packed, along with 994,350 of the conventional paperboard trays. Last year output of the plastic-packaged tomatoes soared to 3,200,000 trays, supplemented by 802,000 of the paper trays. So far this year, the proportion has run about the same.

"Without giving away any trade secrets," says Arthur Robinson, head of the company, "I'll say this: Berky has increased and improved its business standing because of the plastic tomato tubes. In fact, the only time we use paper tubes now is when there's a price factor we can't ignore, or when the whole crop is involved. In other words, we put our best merchandise in plastic tubes."

The potential market for molded plastic tomato tubes may be judged from the fact that tomatoes packed during the season for packaged tomatoes, which runs roughly from October through June, have a retail value of approximately $800 million. At the present time, of course, the plastic trays on a nation-wide basis account for only a relatively small share of the total market. However, if the present trend continues, pre-packaged tomatoes should soon comprise a very important new volume outlet for plastic packages and package components.

The trays used by Berky are molded of polystyrene, one of the lightest and most economical plastic materials now available. This material, noted for its dimensional stability, possesses unusual rigidity even in very thin sections—an important factor in producing a light-weight tray sufficiently strong to carry the weight of three or four tomatoes. In addition, the material is completely tasteless and odorless and can be used in direct contact with food products.

The plastic trays require only a minimum of

[*Continued on page 249*]

PHOTOS COURTESY PACKAGE MACHINERY CO.

Loading the trays is done by hand on conveyor belt, with the loaders carefully selecting pre-sized tomatoes to make total weight of 14 oz. for four.

Overwrapping is done automatically in specially adapted machines using printed, roll-fed cellophane. Wrapping and heat sealing help make package rigid.

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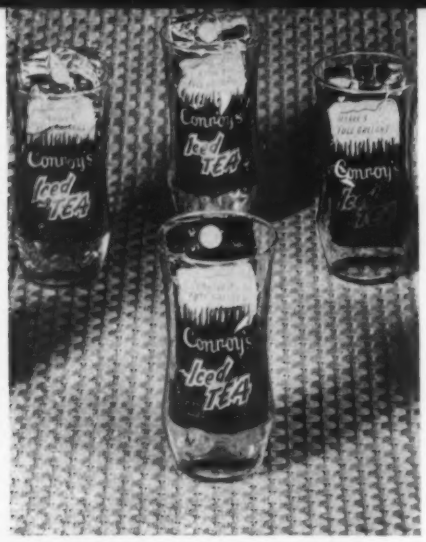

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Modern Packaging Pageant

1 Heat-sealed aluminum foil envelopes holding 3 oz. of soluble tea are said to make three gallons of iced tea. For summer promotion Conroy Coffee Co. packs them in 18-oz. iced-tea glasses. Envelope, Milprint, Inc., Milwaukee, Wis. Foil, Aluminum Co. of America, Pittsburgh, Pa.

2 Corn syrup is one of the latest products to be packaged in a polyethylene squeeze bottle for ease of use. St. Lawrence Starch Co. of Canada now puts its Bee Hive brand in nozzle-ended plastic containers. Design, Plastic Bottle Sales, Ltd., Toronto. Bottle, Plax Canada, Ltd., Toronto.

3 Southern Food, Inc., upped sales of baked hams by using convenient carry-home cartons made of white lined corrugated, printed with a simulated wood design and appetite-appeal illustration. Carton, Atlanta Paper Co., Atlanta, Ga.

4 Family take-home packs of four Eskimo Pies get new sales impact in laminated foil cartons printed in five colors on a silver background, with trademark and picture of product on four side panels. Designs are oriented in different directions to suit all methods of stacking. "Foiline" carton, Robert Gair Co., New York, using Reynolds Metals foil.

5 Strong product identity for store display is the aim of a colorful new corrugated carton for Philco Corp. television antennas. Printing is in blue on a solid yellow background, featuring lightning flashes and angular pattern. Carton, Stone Container Corp., Eastern Div., Philadelphia, Pa.

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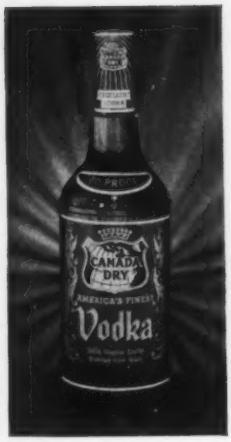

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Packaging

6 Quick recognition is the objective of a new family design for Roman Products line of frozen Italian specialties. New high-gloss overwraps feature full-color rotogravure illustrations of ready-to-serve dishes. Wrap, Marathon Corp., Menasha, Wis.

7 Foil-laminated tray carton for H. Piper Co. brown 'n serve rolls, used by baker to semi-bake the rolls and by consumer in her oven, eliminates use of baking racks or pans by each. Cover is die cut to support each roll individually. Tray is specially treated to permit good release of product. Carton, Container Corp. of America, Chicago.

8 Canada Dry Vodka, latest alcoholic beverage introduced by Canada Dry Distillers, Inc., is now headed for national distribution. Labels bear familiar map-of-Canada trademark and "Vodka" in Russian-style lettering. Bottle, Foster-Forbes Glass Co., Marion, Ind. Label, American Label Co., New York. Closure, DuPont Cel-O-Seal.

9 Procter & Gamble's Joy joins the procession of successful liquid detergents packaged in metal cans. New packages with dripless polyethylene spouts and holding 12 and 22 oz. are lithographed in red, light and dark green, blue and white. Can, American Can Co., New York.

10 Shipping display carton for Rochester Ropes, Inc.'s plastic-coated tiller ropes is designed for use in boating-supply stores. Reel of rope is mounted on wire legs secured to base of corrugated carton, with rope threaded through hole in front for customer

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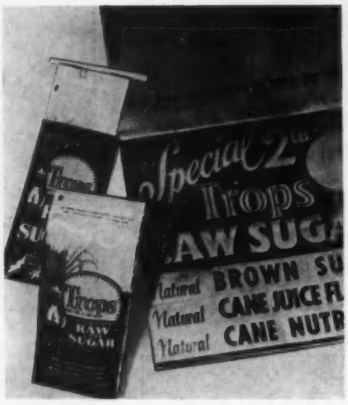

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Modern Packaging Pageant

inspection. Carton, Hinde & Dauch, Sandusky, Ohio.

11 John H. Swisher & Sons, Inc., capitalizes on the custom of proud fathers handing out cigars with foil overwraps heralding the newcomer with "It's a Boy!" or "It's a Girl!" on its King Edward cigar boxes. Wrap, Milprint, Inc., Milwaukee.

12 Pliofilm-lined duplex paper bags for Knickerbocker Foods' Trops raw sugar have hermetic heat seals to protect the hygroscopic product and steel ties for extra moisture protection during use. Bag, Shellmar-Betner Div., Continental Can Co., New York, using Goodyear Pliofilm.

13 Squeezable polyethylene can with crimped-on metal ends, top and bottom, provides squeeze-puff dispensing of Breck's Jap Beetle spray dust. The new can-like containers have polyethylene spouts with hinged double-seal plug cap. Container (Bracon 2ME), Bradley Container Corp., Maynard, Mass., using Bakelite polyethylene.

14 Aluminum Co. of America's new Alcoa household foil in 15-in. rolls has been introduced in a foil cutter box designed to stand out on self-service shelves. Box, Marathon Corp., Menasha, Wis.

15 Rice's Bakery is introducing a foil bread wrap this month for its "Weekender" non-premium loaf. The eye-appealing, protective wrap, gravure printed, is a heat-sealable laminate consisting of layers of aluminum foil, wax, tissue, wax and tissue. Wrap, Reynolds Metals Co., Louisville, Ky.

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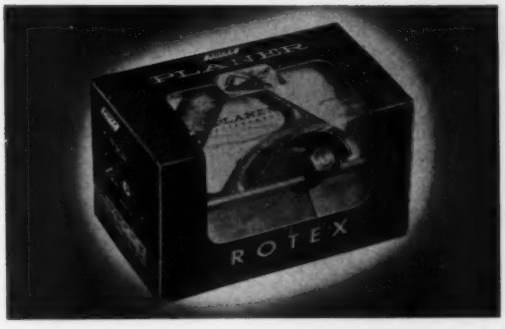

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Packaging

16 White Horse Scotch whisky, distributed by Browne Vintners Co. now uses a tear strip on its foil closure seals (see MODERN PACKAGING, Nov., 1954, p. 149). A pull on the tab of the red band circling the closure separates seal just below cap.

17 Design of the applied color labeling now used on Wilkins Co.'s K-Lens-M lens cleaner in pint bottles has been selected as the basis for a family design for nearly all the company's products. Bottle, Owens-Illinois Glass Co., Toledo. Screw cap, Armstrong Cork Co., Lancaster, Pa.

18 Eastman Kodak Co.'s new Kodak Filter Kits, holding three basic filters and an adapter ring in an acetate case, contain the basic needs for the amateur in filter photography. Each item is in an individual, transparent, swing-out compartment for convenience and accessibility. Tenite acetate, Eastman Chemical Products, Inc., Kingsport, Tenn.

19 A gaily decorated acetate tube with a 78-RPM recording of "The Bunny Parade" as the cover is the package for Stern Toy Co.'s toy bunny called "The Bunny Parade." Design, George Reiner, New York. Package, J-E Plastics Mfg. Corp., New York. Record closure, Sound Packaging Corp., New York.

20 Mylar has been selected, because of its strength, as the film for this window carton for Rotex Mfg. Co.'s planer attachment. The carton is printed in black, white and fluorescent red. Design, Fred M. Gore, Dallas, Tex. Carton, Magnolia Paper Co., Houston, Tex., using DuPont Mylar.

The feeding of robots

Voracious appetites of automated circuit assemblers in today's electronics plants require even the smallest parts to be packaged in self-feeding magazines

Assembly line: 1956. Attendants at Admiral Corp. are required only to position parts on the machines in the self-feeding, magazine-type packages in which they are received from suppliers; machines automatically turn out the complex printed circuits 70% completed.

In the swiftly expanding field of automation, the automatic assembly of various components in complex electronic circuits depends upon the accurate feeding and indexing of the parts into the assembly or sub-assembly. If the parts must be fed by hand, much of the value of an automated line is lost.

Accordingly, the assembly manufacturer now frequently requires component parts to be packaged in such a manner that they can be fed automatically from the package* right into the automated lines—a new challenge in functional industrial packaging.

In June, 1954, Admiral Corp., Chicago, after an extended period of research and development, and the successful pre-testing of printed circuits in more than 250,000 radios, extended the application of printed circuits to television receivers. At that time, Admiral introduced the industry's first TV receiver containing printed circuits in a major portion of the chassis.

At the same time, the company disclosed that its engineering and research departments had devel-

*See "Parts by the Reel," MODERN PACKAGING, Aug., 1955, p. 100.

oped automatic production equipment capable of inserting various electrical components in a printed circuit board equivalent to one-half the wiring in the entire TV chassis.

In order to make the operation of these lines possible, many of the small components such as resistors, condensers, wire jumpers and tube sockets are delivered to Admiral pre-packaged in tubes or sleeves which are inserted directly in the "heads" of the automatic equipment. Each head feeds and indexes one or more parts as the printed circuit panels move beneath it.

In one of Admiral's plants, one of the world's largest automatic television assembly lines thus inserts over 70% of the 231 electrical components contained on three printed circuit panels used in the company's new television receivers. Through the use of automation and printed circuits, more than 400 hand-soldered connections have been eliminated.

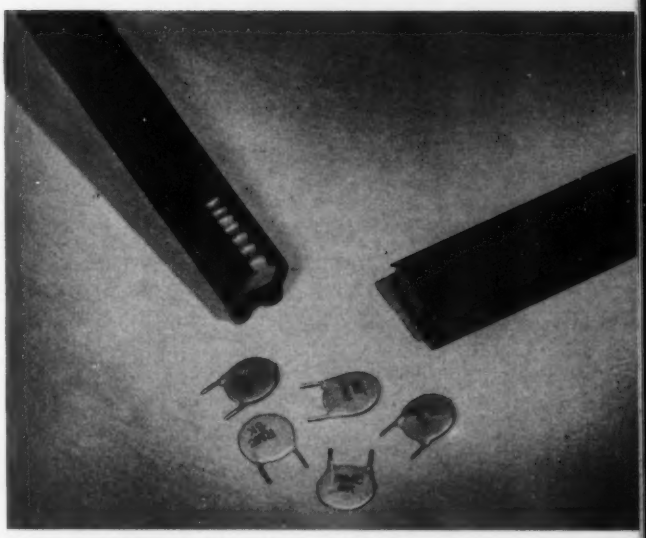
Exemplifying the role of packaging in this important new field of industrial development is a tubular package used by Admiral for feeding small condensers into the automatic assembly operations. About half the size of a dime, these flat components have two small wires or leads which project from them. The tubes in which Admiral receives these diminutive parts from one of its suppliers consist of extruded lengths of a rigid yet resilient thermoplastic material, having a cross section conforming closely to the dimensions of the parts. As delivered to Admiral, each of the black plastic tubes, measuring approximately 24 in. in length, is pre-loaded with approximately 200 of the condensers.

Actually, the tubes are not a completely closed cross section, but have a slot extending along the top, sufficiently narrow to prevent the tiny condensers from dropping out. The two wire ends ride in channels provided in the closed side of the tube, assuring that each condenser will be in the proper position when dropped into the assembly. As a further precaution, the supplier, after filling the tubes, secures them at several points with small strips of masking tape. The ends are also taped.

On the Admiral automated lines, operators need only to remove the tape at one end of the tube and insert it in a vertical position in the proper machine head. From the tubes, parts feed automatically by gravity into the manufacturing operation.

Light in weight for easy handling and sufficiently sturdy to prevent damage to the delicate parts, the plastic tubes are also relatively low in cost, permitting them to be discarded each time a new tube is inserted in the machine head.

Credit: *Extruded plastic tubular packages supplied by Anchor Plastics Co., 36-36 36 St., Long Island City 6, N. Y.*



A new principle in industrial-parts packaging is represented by molded plastic channels which position and feed tiny condensers, less than ½ in. in diameter, 200 at a clip, to automated printed-circuit machines in Admiral TV plant.

Products of packaged feeding of parts are these three printed circuit panels assembled and soldered in one automatic step, compared with 428 hand-soldered connections formerly required in manual assembly. Result: lower TV costs.

Ready-to-bake biscuits are largest users of fibre-bodied, metal-end cans in the bakery field. Four companies whose products are shown above are sales leaders.

New utility for fibre cans

Metal-end containers with easy-opening devices are stronger than ever in the self-rising biscuit field and are now moving into other food specialties

The metal-end fibre can, having won a place several years ago as a package for self-rising biscuits, seems to be gaining users rapidly in the prepared-foods field as new products and new brands turn to it. One reason for this apparent trend may be the development, during the past year or two, of at least three types of easier-opening constructions. Heretofore, the conventional fibre-bodied can, with its tightly crimped-on metal ends, has ranked high on the list of hard-to-open packages.

Largest users of this container in the food field still are the manufacturers of prepared, "ready-to-bake" biscuits and rolls, with four large national distributors now using it for their products. In recent months the fibre can has also been adapted to teething biscuits, bread and cracker crumbs, cookies, crackers and a host of similar manufactured bakery specialties.

First introduced shortly after World War II, ready-to-bake biscuits are customarily sold from refrigerated dairy cases. If the package is left at room temperature for any length of time, the leavening agent in the self-rising biscuits may begin to act, releasing carbon dioxide and causing continual outward pressure on the container. Thus the tube structure must be a strong one.

The large producers of these biscuits have standardized their offering to a 10-unit size, packed in a cylindrical can that is approximately 2 in. in diameter and 5½ in. long. Although most of these cans are very similar in appearance, there are three distinctly different kinds of construction in use.

Spiral wound

The first composite can having widespread distribution for biscuit packaging was the spiral-wound type. Manufactured along conventional lines, this container presented, when first introduced, quite

an opening chore to the user. First, she had to pry or cut the metal top off. Then, she was required to tear down the plies of the fibre walls. Lastly, there was the task of unwrapping the biscuits from a foil covering.

A recent improvement in the spiral-wound can has been the development of an easy-peel-off label. Produced from foil and colorfully printed, the label has a clearly marked triangular tab, which the user is instructed to pull. When this is done, both the label and the outer ply of fibre (to which it is attached) can be easily removed. Then, a sharp rap on the butted chipboard section underneath weakens its structure and the consequent release of pressure from the biscuits themselves pushes the package open.

This type of can is now being used by Ballard & Ballard, Louisville, Ky., for its Ballard Biscuits, and by Pillsbury Mills, Inc., Minneapolis, Minn., for both its Buttermilk Biscuits and its recently introduced Quick Cinnamon Rolls. This latter product is packed in a slightly squattier cylinder than the conventional biscuit package, measuring only 4½ in. in length, but having a diameter of 2¼ in.

Tear string

Second oldest type of biscuit container is the convolute-wound can with a tear-string opening de-

[*Continued on page 256*]

Other bakery products are also finding the fibre can a useful container. King Kone's Old London sandwiches are one of many specialty products which are using snug-fitting metal lids on spiral-wound can. Heinz Teething Biscuits uses a convolute-wound can with tear string. Ward's Bread Crumbs spiral-wound can has a shaker top.

Three types of easy opening

Pull tab, now used on spiral-wound cans, removes the outer foil label and the first ply of fibre when pulled. Then interior shell can be broken open with sharp rap.

Tear string splits open convolute-wound can, whose walls are produced from several layers of heavy kraft. The inner foil liner encloses standard portion of 10 biscuits.

Full-length tab on lap-wound can is newest opening device. Walls are made from single ply of aluminum combined with bleached kraft; can opens completely with one pull.

Stand for grass shears

Seymour Smith & Sons, Inc., is using a special corrugated display container for its novel long-handled grass shears. The unit displays two pairs of shears and stores an additional two pairs out of sight. The main section of the display is die cut and creased to form a front panel and two slanted side panels. When this is set up, the top of the front panel juts out just enough to support the handles of the shears, which are set in die-cut openings that frame a special display area for the company's logotype. Wheels of the tools are supported in openings at the bottom of the front panel.

In the rear of the display, a separate die-cut sheet spans the width of the stand, locking the bottom edges of the two side panels in position. This also supports the two additional pairs of knocked-down shears which are stored within the display. The entire display is printed in green and white on a yellow background, with illustrations on the side panels showing the tool in use.

Credit: *Display by Connecticut Corrugated Box Div., Robert Gair Co., Inc., 155 E. 44 St., New York 17.*

Flask in mid-air

Giving the impression that it is suspended in the air without support, this pocket-sized, half-pint flask of Glenmore Distilleries Co.'s Old Kentucky Tavern bourbon helps get customers to try the brand. The miniature display, designed for use on package-store counters in states where this size of bottle can be sold, is vacuum formed of cast vinyl sheet and secured to a rectangular metal easel, which fits around the display piece and supports it. A second piece of plastic material fits on the rear of the easel to hold the actual bottle.

Pointing to the "suspended" bottle from four directions are small arrows, each bearing a short sales message: "Fits pocket or purse," "jigger cap," "100 proof bottled in bond," and "take one along." Across the top of the display a larger panel tells customers, "New half-pint pocket flask at no extra cost," and along the bottom a reproduction of the lettering on the bottle features the name "Kentucky Tavern" in old fashioned lettering.

Credit: *Display by Associated Display Services, 49 E. Oak St., Chicago, using Bakelite cast vinyl sheet.*

Ale as a life saver

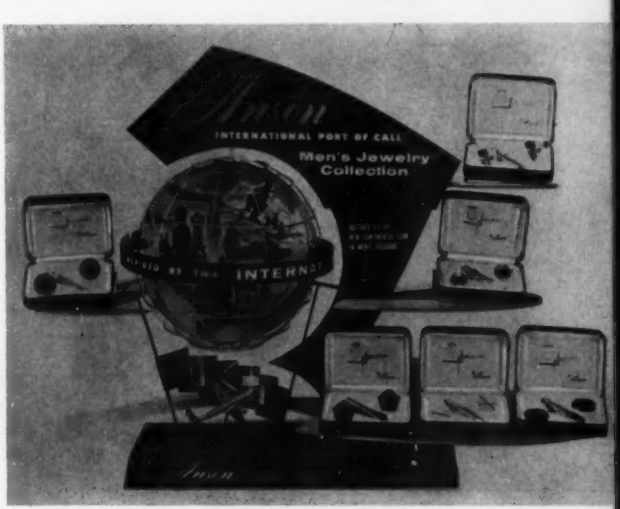
This multiple-use display piece distributed by Molson's Brewery, Ltd., of Canada is adaptable either to a counter, to a window, or to a back bar. Vacuum formed of a single sheet of acetate and stitched to a cardboard back for support, the display simulates a large life preserver bearing the words, "Molson's Export Ale," a giant bottle of the same beverage and a foaming glass that appears to be filled to the brim with the golden liquid.

The display piece may be set on top of a store counter, against the back of a window display or in any other similar location. It also can be fastened against a mirror, wall or other flat surface to give the impression that the shelf on which the bottle and glass appear to rest is jutting out.

This display was one of the award winners at the recent 1956 Canadian Point-of-Purchase Advertising Competition, sponsored by the Packaging Assn. of Canada at its annual convention.

Credit: *Display by Creative Display Advertising, Ltd., Leaside, Ontario, Canada, using Celanese acetate.*

Multi-material motion display shows off men's jewelry



A new counter display introduced by Anson, Inc., manufacturer of men's jewelry, indicates the great variety of materials and printing processes sometimes required to achieve the desired arresting result. Metal, wood, vinyl and paperboard are used to build the point-of-sale piece; lithography, silk screen and motion bring it to life.

Theme of the display is "International Port of Call," which is keynoted by a large globe decorated with an assortment of travel scenes. Longitudinal and latitudinal lines on the globe are formed by open-work strips of wire. The sphere is set on a wooden base, against a backdrop of flags of various nations. The globe revolves on its axis and is motivated by a small plug-in motor, which is concealed at the top of the display, behind a large irregular-shaped panel which displays the name of the company. Four pastel-colored shelves display a group of six different items from the Anson jewelry line, each in an opened case.

Credit: *Display by Einson-Freeman Co., Starr & Borden Aves., Long Island City 1, N. Y.*

Winning set-up boxes

Trends to higher quality, greater versatility noted as 73 packages garner 85 awards in sixth NPBMA competition

From a list of entries that totalled 2,600, seven experts have picked the winners of 85 awards in the 1956 Sixth Annual Set-Up Paper Box Competition.

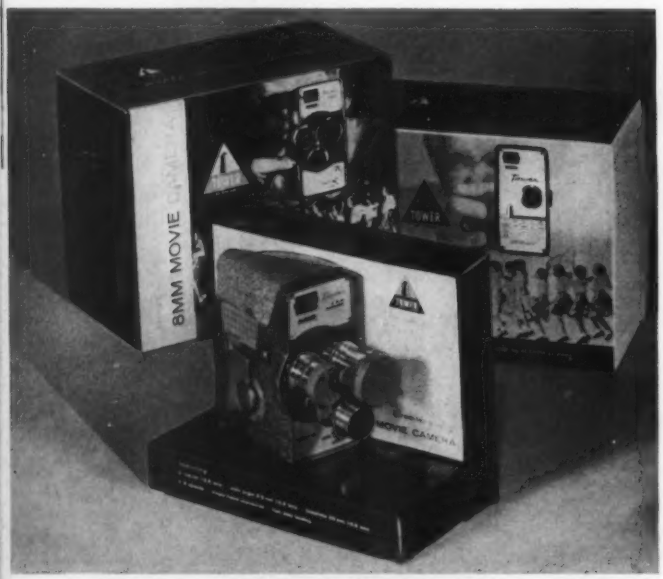
The event is sponsored by the National Paper Box Mfrs. Assn. and awards will be presented and all boxes entered will be displayed at the association's convention in San Francisco, May 16-19.

Altogether, 25 first-prize winners were selected, along with 24 seconds and 36 honorable mentions. The total of award-winning boxes, however, was only 73, since a number of entries won honors in more than one category of the competition. The boxes were judged in 21 different end-use categories, as well as for superiority in display, construction and surface design. Best transparent boxes also were picked.

Among the trends noted by the judges at this year's competition were increasing emphasis on higher quality and the use of versatile boxes that display, protect and store their contents. Also apparently on the increase are "silent selling" features aimed at the ever-growing self-service market and the use of multiple-unit packages of many kinds.

Judging the entries in this year's competition were: Henry J. Aemisegger (retired), G. A. Bisler, Inc.; A. P. Bondurant, vice president and advertising manager, Glenmore Distilleries; Joseph Cochran, purchasing agent, Strawbridge & Clothier; Milton L. Fitch, president, Howard Wesson Co.; William V. Morphy, R. H. Macy & Co.; A. H. Pettigrew, American Cyanamid Co., and John A. Warren, American Management Assn.

Triple winner



Best box for Photographic Products and Supplies
Best Display Box
First award in Superiorty of Construction

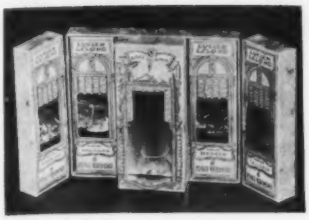
General Superiority According to End Use

Drugs, Chemicals and Pharmaceuticals—First Award: The Bradley & Gilbert Co., for vitamin presentation box for Mead Johnson & Co. Art and color designate the appropriate vitamin for each age group of children. A hinged lid is printed in five colors and a die-cut insert divides the contents. The kit is protected by an unprinted sleeve. Second Award: Wilson Paper Box Co., for Donnatal Formulations box for A. H. Robins Co. Honorable Mention: Paris Paper Box Co., for salt-tablet dispensing box for A. E. Halperin Co.

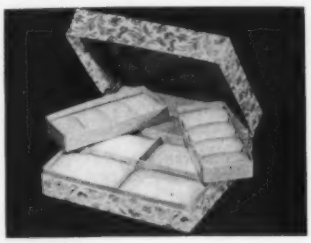
Cosmetics—First Award: The Chaspec Mfg. Co., for perfume assortment gift box for Lucien Lelong. (Also won Second Award for Best Display Box.) Five perfume bottles are packed in a gift display box, using an outer carton made from triple layers of protective board. Perfume is featured on brass-hinged side trays and die-cut center tray. Second Award: Manufacturers Box Co., for perfume gift box for Mary Chess. (Also won Honorable Mention for Best Display Box.) Honorable Mentions: F. N. Burt Co., for toiletries box for Avon Products, Inc.,

First prize winners in each of 20 end-use categories

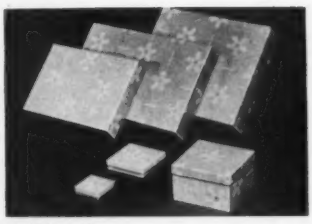
Drugs, Chemicals, Pharmaceuticals



Cosmetics



Soap



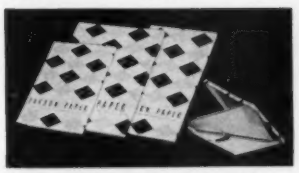
Holiday Boxes

Confections

Sporting Goods

Men's Wearing Apparel and Accessories

Personal Accessories



Office Equipment and Supplies

Toys and Games

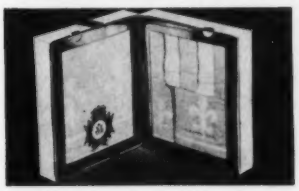
Retail Boxes

Footwear

Women's Wearing Apparel and Accessories

Mailing Boxes

Hardware and Household Supplies



Textiles

Jewelry and Silverware

Food

Stationery

Miscellaneous boxes

and Samuel Barnett Co., for "Sirocco" perfume box for Coty, Inc. (Also won First Award for Best Transparent Box.)

Personal Accessories—First Award: Paul T. Freund Corp., for eyewear presentation boxes for Bausch & Lomb Optical Co. (Also won Honorable Mention for Superiority of Construction and Honorable Mention for Best Display Box.) Designed for counter display, the boxes have a sales message on top and inside of lid and are silk screened in white, gray and pink on a black wrap. The large box opens to show flat hinged lids covering two inner boxes which hold eye-glass frames. Second Award: Samuel Barnett Co., for pen display box for Eversharp, Inc. (Also won Second Award for Best Transparent Box and Honorable Mention for Best Display Box.) Honorable Mention: F. N. Burt Co., for Remington Duet shaver box for Remington Rand.

Soap—First Award: The Central Carton Co., for soap gift chest for The Hewitt Soap Co. Introduced for Christmas gift buying, this box has overprinted gold-foil paper and a padded, loose-wrapped lid to give a feeling of luxury and quality. Concealed cord attached to lid causes two trays of miniature soap cakes to pivot outward when lid is raised. Second Award: Newark Paper Box Co., for Lux gift pack for Lever Bros. Co. Honorable Mention: The Central Carton Co., for Drene shampoo box for The Procter & Gamble Co.

Food—First Award: Congress Paper Box Co., for imported-preserves box for Reese Finer Foods, Inc. Red and white tulips on lid give a Dutch atmosphere, with same motif being carried out on the base with a standing tulip insert held in place by a die-cut platform containing six jars of preserves. Second Award: C. W. Zumbiel Co., for holiday delicacies gift box for Grace A. Rush, Inc. Honorable Mention: Congress Paper Box Co., for cheese-assortment box for Reese Finer Foods, Inc.

Confections—First Award: C. W. Zumbiel Co., for octagonal confectionery box for Grace A. Rush, Inc. Made from corrugated board, this box features four-color silk-screen printing on lid wrap. Inside, an eight-flanged insert separates and displays the heavy glazed fruits. Second Award: Friend Box Co., for Mother's Combination gift box for Putnam Pantry Candies and Mrs. Day's Ideal Baby Shoe Co. Honorable Mentions: F. J. Schleicher Paper Box Co., for confectioners' stock box for various customers; Walter P. Miller Co., for Atlantic City family of candy boxes for Convention Hall, Atlantic City, and G. A. Bisler, Inc., for Hilton's candy box for Frances Sinagnan & Cie., Inc.

Hardware and Household Supplies—First Award: Congress Paper Box Co., for "The Jewel Case" cutlery box for C C Mfg. Co. A combination of set-up box components displays high-grade cutlery as a gift set. All parts are wrapped in gray marbleized paper and brass ring-pulls act as knobs to open the divided lid. Top tray insert displays contents on ruffled satin. Second Award: The Bradley & Gilbert Co., for paint color selector for Kurfess Paint Co. Honorable Mentions: Consolidated Paper Box Co., for hacksaw-blades box for The L. S. Starrett Co. (also won Honorable Mention for Superiority of Construction) and Congress Paper Box Co., for copper-molds box for Light Metal Processors.

Winners of two

Best Surface Design and Execution

Photographic Products & Supplies—First Award: Congress Paper Box Co., for Tower movie-camera boxes for Sears, Roebuck & Co. (Also won First Award for Superiority of Construction and First Award for Best Display Box.) These triple prize-winning boxes feature three-dimensional display of cameras, smart use of copy space, special construction to lock contents safely for handling and display. A large telescoping lid uses sea-green color on a white background and a "movie-action" photo which slips off to display the camera in a black-wrapped, extension-edge base fitted with two die-cut inserts. Second Award: W. C. Ritchie & Co., for portrait-camera box for Argus Cameras, Inc. Honorable Mentions: W. C. Ritchie & Co., for roll-film display box for Walgreen Co., and Dennison Mfg. Co., for exposure-meter box for General Electric Co.

Textiles—First Award: Old Dominion Box Co., for Martex towels gift box for Fairfax Mills. For all-occasion gift use, this hinged double-book box has an outer wrap of shiny white litho paper. Merchandise is framed in gold foil-wrapped window box fitted and sealed into outer box. Second Award:

special awards

Best Transparent Box

Specialty Paper Box Co., for kitchen-set gift box for Marion's Dish Towels. Honorable Mention: Old Dominion Box Co., for towel-set gift box for Cannon Mills. (Also won Honorable Mention for Superiority of Construction.)

Women's Wearing Apparel and Accessories—First Award: Pacific Paper Box Co., for set of lingerie boxes for Romance of California. Six pastel shades of lingerie are packed in matching boxes with acetate lids. Individual boxes are color-keyed to contents for quick identification. Second Award: Oscar Trilsch Co., for hosiery purse box for Claussner Hosiery Co. Honorable Mentions: L. Gordon & Son, Inc., for pajama-set box for Kaylon, Inc., and L. Gordon & Son, Inc., for lounge-wear box for Kaylon, Inc.

Men's Wearing Apparel and Accessories—First Award: J. G. Ott Packagings, Inc., for Arrow casual-wear box for Cluett, Peabody & Co. For casual beachwear, this sturdy box is designed in gray with white pinstripes and a red diagonal band. Inside, a center divider is held securely under the edge of box wrap. Second Award: Van Ness Bros., Inc., for sportswear box for The Manhattan Shirt Co. Honorable Mention: Paragon Box Co., for shirt and slacks box for Marcus Loeb Co.

Footwear—First Award: Frank C. Meyer Co., for Ivy League shoe box for Kays Newport Ivy League. Colorful Ivy League college pennants appear on lid, base and sides of this box, which is formed by creasing rather than scoring, for extra strength. Preprinted mailing label is on bottom, with white space at ends for descriptive marking. Second Award: Frank C. Meyer Co., for shoe box for D'Antonio. Inc. Honorable Mention: C. W. Zumbiel Co., for "Angel Treads" slippers box for R. G. Barry Corp.

Retail Boxes—First Award: Pacific Paper Box Co., for men's-store gift box for Stan Hall. Retail box for University of Southern California men's shop has store name die stamped in white on glossy, deep blue lid wrap. For contrast, base of box is brown. Second Award: Wayne Paper Box & Printing Corp., for department-store gift boxes for Edward C. Minas Co. Honorable Mention: E. E. Fairchild Corp., for retail boxes for Sibley's Department Store.

Holiday Boxes—First Award: Wayne Paper Box & Printing Corp., for holiday boxes for Wolf & Dessauer. Store's name is arranged unobtrusively in a snowflake design on cover, using a soft gray background with white printing highlighted by bright red pentagons. Second Award: Wayne Paper Box & Printing Corp., for Christmas Boxes for Patterson-Fletcher. Honorable Mention: None.

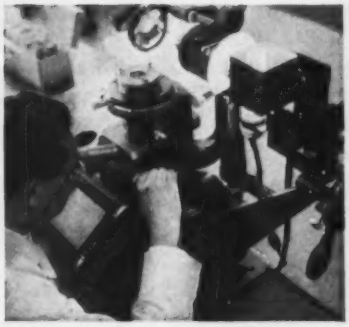
Sporting Goods—First Award: Taylor Box Co., for U. S. Royal golf-ball boxes for United States Rubber Co. Extra protection and maximum product identification is given on this box of three balls, which has a lid that acts as a frame for displaying them. Single scored-card insert in base holds balls in tiered display position. Second Award: I. A. Deline Paper Boxes, Inc., for knife boxes for Western States Cutlery. Honorable Mention: None.

Toys and Games—First Award: Walter P. Miller Co., for model-train-set box for Penn Line. Extra-heavy board is used to form base and lids of this large, but relatively shallow telescoping box. Components are protected by a die-cut insert in base, which allows inspection without handling. Second Award: United Paper Box Corp., for children's cooking-set boxes for Model Craft, Inc. Honorable Mentions: W. C. Ritchie & Co., for Schiaparelli bridge-set boxes for Arrco Playing Card Co., and The Chaspec Mfg. Co., for Animal Solitaire Box for The Chaspec Mfg. Co.

Stationery and Paper Goods—First Award: Congress Paper Box Co., for stationery gift chest for Lakeside Central Co. A single gift box, holding a complete assortment of feminine stationery needs, has hinged lid and two drawer pulls. Wrap is overprinted gold foil paper against a pink background. Second Award: None. Honorable Mention: Congress Paper Box Co., for Club stationery box for Arthur E. Wilson Co.

Jewelry and Silverware—First Award: Friend Box Co., for sterling-silver-cup box for Towle Mfg. Co. Telescoping box for single piece of silver has blue satin lining in base and gold-flecked design on lid for gift appeal. Cup is held securely [*Continued on page 236*]

OWENS-ILLINOIS ASSURES YOU A



Co-ordinated Research

Pure research into formulae and fabrication of glass, *packaging research* into processing and handling methods in customer plants, and *market research* into consumer attitudes, add up to greater specific value for your packaging dollar.

Engineered Design

The package that takes your product to market must take *three* needs into account. Considerations of its function in the retail store, its operating efficiency and its consumer utility all become a part of the prescription for an Owens-Illinois package.

The Right Container

Facilities at Owens-Illinois are versatile. Talents are varied and many. So you can count on obtaining a container exactly suited to your needs—one that blends salesmaking beauty, product protection and utility in the proportions required to attract customers.

Air Freshener or Disinfectant—

COMPLETE PACKAGING APPROACH

The Right Closure

Know-how as to the best available liner and closure—best for packing, displaying, or using a specific product—may well be one of the most important single points through which expert packaging counsel will reward you many times over.

Needed Fitments

With emphasis on the word "needed," Owens-Illinois specialists are keenly aware of sales benefits possible through use of plastic shaker and pour-out fitments which are not "gadgets" but which increase consumer satisfaction with your product.

Merchandising Cartons

Modern cartons are developed only through systematic consideration of their opportunity to serve you in the retail store and retail warehouse as well as on your own filling line and in transit. Owens-Illinois is pioneering such developments.

help yourself to sales...

with an Owens-Illinois package that sells through convenience in use

IMPULSE BUYING plus product recognition is largely responsible for the record increase in store sales.

Marketing your product in a well-designed and engineered glass container puts your merchandise up front in the sales parade.

Glass can be designed and molded into a salespackage to catch the customer's eye in advertising campaigns as well as in the store where sales are made. Glass also is an efficient salesman when it comes to convenience and product protection. The quality of the contents is maintained throughout many openings and closings. The housewife can readily see how much she has left.

Skilled packaging designers at Owens-Illinois will gladly help you create a sales-making label and closure combination for your product. There are hundreds of different sizes, styles and shapes of stock-model bottles from which you can choose.

DURAGLAS CONTAINERS
AN (O) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES · TOLEDO 1, OHIO

Corrosion-inhibitive cartons

General Motors parts demonstrate new principle in the use of VCI chemicals; treatment of the carton lining itself is sufficient to prevent corrosion

Invisible is the corrosion prevention afforded this precision-made hydraulic valve lifter simply by vapors given off by volatile corrosion inhibitor contained on inner surface of the carton itself. No wrap or barrier material is needed.

Typical packages produced by the new method. Regular tuck-end folding boxes have printed foil surface—partly for eye appeal and cleanliness, partly to help retain volatile inhibitor. But flaps of the packages need not be sealed.

PHOTO COURTESY ROBERT GAIR CO.

For the first time, precision parts are being protected against corrosion by the invisible magic of a volatile corrosion inhibitor in a folding carton itself, without a wrap or any other added vapor barrier.

This significant development has taken place at the Diesel Equipment Division of General Motors Corp. in Grand Rapids, Mich., where automotive and diesel engine parts are produced. The change has made possible the use of an automatic cartoning machine to package hydraulic valve lifter assemblies for service replacement in place of the previous elaborate process of dip coating in plastic.

The VCI is sprayed on paper—which can be glassine or otherwise, depending upon the product—laminated by the supplier to the inner surface of the folding carton.

The cartons used by Diesel Equipment are of tuck-end construction. There is no significant loss in performance through the use of a carton which is not sealed, tests have shown.

The story is told by James Gallagher, general supervisor of production control in the General Motors Diesel Equipment Division.

It was apparent that in order to increase the capacity for packaging hydraulic valve lifters, a new type of package would have to be developed. More than this, it was decided the package would

have to be designed to hold but one lifter and be so constructed that danger of corrosion to the product would, for all practical purposes, be non-existent.

The packaging process then in use possessed limitations which made it impractical to increase the production capacity to any appreciable extent.

An operator would loop a paper band, on which certain information had been printed, around each hydraulic valve lifter. The band was so designed that one end slipped through the other, which, coming out of the "locking" system, remained free. Near the outer edge of this free end was a hole by which the unit was placed on a conveyor hook.

The traveling conveyor took the lifter through molten ethylcellulose solution. As a last operation from the moving chain, the lifter was bumped off the conveyor at a chute opening. It rolled from the trough and was then packed in a container.

Many problems were inherent in this system. Chief among these was the repair work needed on the lifters' plastic coating when air bubbles occurred.

With the anticipated need for increased capacity and with the experience of the shortcomings of the present process, a new approach to packaging these assemblies seemed advisable.

The Service Packaging section gave the problem a great deal of thought. Experiments were conducted with many types of packaging materials, with the volatile corrosion inhibitor chemical proving to be most satisfactory. Other products manufactured by the division had, at one time, been packed in a kraft paper which had been treated on the inner surface with a coating of VCI. The VCI had been successful; therefore, why not try a folding paper box with this same chemical formula lining the interior?

VCI is a crystalline substance which gives off a vapor. It is this vapor which surrounds the product and acts to prevent corrosion.

A manufacturer of folding cartons was contacted and, with the necessary dimensions and allied information, this supplier began the second phase of the development.

As VCI had been developed during World War II, field tests of packages so protected had a history of 13 years' satisfactory storage. Beyond that length of time the maximum duration of the vapor was unknown. However, in 13-year-old packages no end to the protection is in sight.

The amount of VCI involved in this field test period was 1 gm. per sq. ft. of surface area.

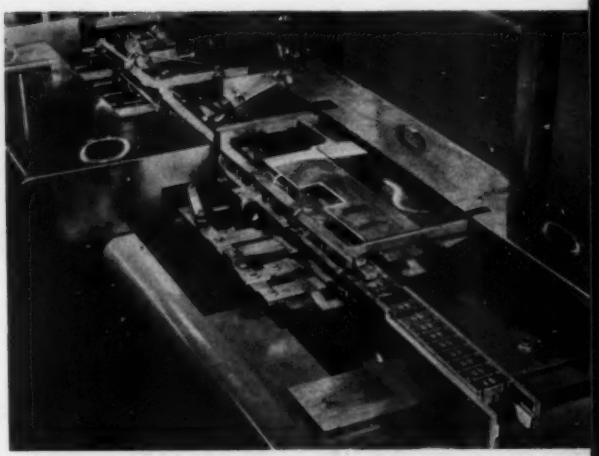
The amount of vapor available at any time to provide protection is dependent upon the area of the VCI-coated surface in relation to the volume of the package which contains the vapor, not upon the thickness of the VCI coating. The rate at which the vapor is developed depends upon the vapor pressure of the VCI and the area from which the vapor can leave the coated surface.

The supplier prepared several sample containers constructed to specification, delivering them to the division for preliminary testing. Tests were started; however, immediately it was discovered that the run-in oil of the hydraulic valve lifters had a tendency to delaminate the paper which contained the VCI from the carton. The supplier experimented with many types of adhesives until one was found which was unaffected by the "run-in" fluid.

With that difficulty resolved, consideration was

The new way

Parts roll down inclined rack into cartoner, where they are spaced in pockets of continuous conveyor.



Machine automatically sets up VCI-treated cartons, positions them, inserts parts and then closes cartons.

given to another phase of the package. This involved the printing which must necessarily appear on the exterior surface of the individual carton. Due to the fact that the kraft board absorbed the lifter oil, two difficulties were apparent: (1) the container became discolored and (2) when the oil came in contact with the acid base of the printing ink, the acid was transmitted back to the lifter, by means of the oil, and produced a corrosion condition.

It was a division employee who provided the solution: "Try aluminum foil laminated to the exterior of the carton," he suggested, "and superimpose the printing upon it."

This was tried with highly satisfactory results, both from the printing standpoint and from the fact that the aluminum foil provided an additional barrier against the loss of the VCI vapor.

With these conditions corrected, the metallurgical laboratory and engineering department conducted short- and long-term comparative tests on packaged lifters. These tests compared the plastic dip package and the new VCI foil-lined carton. From this it was determined that the best results were obtained when the lifter was packaged in a tuck-end folding carton lined with 1 gm. of VCI.

The newly developed container was given to a packaging machinery manufacturer, who was informed of the requirements in terms of capacity. A machine was designed, built and is now operating.

The mechanized packaging procedure now is as follows:

1. An operator loads the hydraulic valve lifters in a chute where they roll down to a conveyor belt and are delivered one at a time.

2. The cartons, in a flattened form, are placed in a rack which is mounted over the starting point of the conveyor. As a lifter rolls to that point, it elevates a lever which attaches itself to the carton by means of suction cups. As the lifter is carried past the point, the lever drops and pulls the carton into a fully opened form.

3. A fork-type arm now descends and places the carton in a partitioned space on a second conveyor belt which moves parallel to the first. One carton is now opposite each lifter.

4. An "arm" mounted alongside the first conveyor lines pushes each lifter into its corresponding carton.

5. The carton's base-end flap is then imprinted with the month and year as the package is carried up a small incline. The stamping is done by a small wheel which revolves over the flap as the carton moves past.

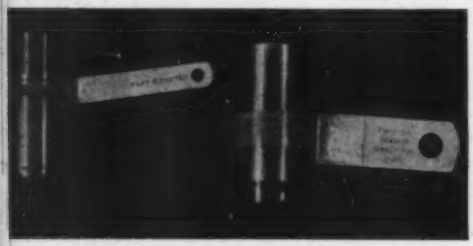
6. An arm suspended from a fixture installed over the conveyor at this point counts the packaged part.

7. An arm and bar combination beside the conveyor now presses the flaps on each end to close the container. An operator then places the required number of packaged parts into master shipping cartons.

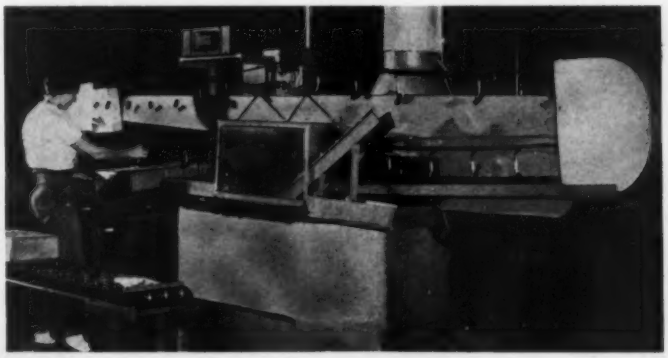
The machine is so designed that any interference with the operating cycle will automatically shut down the entire sequence.

The Diesel Equipment Division is well satisfied with the results of the new packaging process through which increased capacity and improved product protection has been accomplished.

The old way



Previously hydraulic valve lifters were banded with identifying paper bands and dipped in ethylcellulose plastic before placement in a carton.



Dipping process was a cumbersome operation. The banded parts had to be hung by hand on a chain which carried them through a tank of molten plastic.

another prestige product packaged by BURT

Lady Ronson Electric Shaver box
manufactured for The Ronson Electric
Shaver Corporation, Subsidiary of
Ronson Corporation, Stamford, Conn.

F. N. Burt Company Inc. • Manufacturers of Small
Set-up Boxes, Folding Cartons and Transparent Containers
500-540 Seneca Street, Buffalo 4, New York
Offices in Principal Cities Or Write Direct
Canadian Division: Dominion Paper Box Co. Ltd.
469-483 King St. W., Toronto, Canada

The AMA Packaging Show

With a consistency that is significant of the constantly growing scope of the packaging field, the AMA Packaging Show continues each year to surpass expectations and break records. During its four-day run last month, the 25th anniversary National Packaging Exposition and Conference of the American Management Assn. rolled up total attendance of 28,000, making it the largest packaging show ever held in Atlantic City and second largest in history, surpassed only by 31,000 in Chicago in 1955.

During the first three days alone, more than 26,000 visitors viewed packaging materials, equipment and services of a record 387 exhibitors (against 384 last year) occupying 125,000 sq. ft. of floor space in the Atlantic City Convention Hall. At the 1954 show in the same hall attendance was 24,300.

The outstanding impression of this year's show seemed to be of its completeness in covering the full range of packaging materials and equipment. No matter in what aspect a visitor was interested, he could find a co-relation between the selection of materials, the machines for applying them—even the new devices for testing them.

Particularly noticeable was the prominence of film and formed plastic sheet, indicating healthy sales gains in this field, but possibly some keen competition ahead for older forms of paper, metal and glass packaging.

Interest of visitors in improved packaging of all kinds to meet the requirements of continued greater variety in convenience foods, new drug and toiletries products, new horizons in soft-goods and hardware packages for self selection was most significant in that packagers, apparently, are not hesitating to select the best possible package.

Crowds around dozens of new and improved machines indicated avid interest in faster automatic equipment to cut costs and to improve the protective functions.

Exhibits of many new cushioning materials and protective packaging aids showed progress in techniques for packaging the ultra fragile item, such as electronic devices and the delicate parts that are becoming such an important factor of a modern scientific age.

As previously indicated, the 1957 Show will return to the International Amphitheatre in Chicago and will run from April 8 to 11. Continuing the association's policy of alternating between East Coast and Midwest locations, the 1958 event will be held either in Atlantic City or in New York City's new Coliseum on Columbus Circle.

More than 1,000 attended the three-day AMA Packaging Conference, where 16 speakers discussed latest progress in packaging organization set-up and the latest methods and techniques of consumer and industrial packaging.

Those attending the conference seemed to like this year's program planning, which confined the conference to three morning sessions with no concurrent meetings, permitting attendance at all sessions without taking time away from the show, which opened at noon on each conference day.

Following are summaries of each speaker's remarks.

The conference-opening session

Chairman, W. L. ROMNEY, *Technical Director of Packaging, The Procter & Gamble Co. Assistant Chairman,* LAWRENCE M. ROGERS, *Director of Manufacturing Administration, Lambert-Hudnut Div., Warner-Lambert Pharmaceutical Co., Inc.*

Increasing Sales With Better Packaging Through Market Research—RICHARD MANVILLE, *Richard Manville Research.*

Mr. Manville reviewed eight case histories of "before-and-after" packages for General Electric's portable mixers, Taste O'Sea fresh frozen fish, Plymouth automobile, Bunte candy, General Mills, Sinclair gasoline, American Safety Razor and Startex Mills dishtowels.

To me, he said, packaging is the total presentation of the product—not the box in which it comes. Sometimes your package is the name of the product which acts as the packaging handle.

In September, 1955, General Electric Co. was ready to bring out a redesigned portable hand mixer.

Consumer and dealer studies were started by the Marketing Research Section to determine specific objections, if any, to the existing package. A mail survey was done among 350 district representatives, distributors and dealers.

Results from this package redesign program based on the research are as follows, reported by Bernard Bolter and R. H. Koepf of Appearance Design Section of the General Electric Co.:

(a) *Cost Reduction:* In a year's time, they will realize a saving of more than $30,000 on this new package.

(b) They have a package that is easier to open, to pack, to handle and identify in the warehouse and the store.

(c) The package has been well received and the colorful appearance, coupled with the carry handle and easy product identification, appeal to the consumer.

(d) It can be used to store the product when not in use, or it makes a toy for children when empty.

(e) It is a good solution because it fills the needs of manufacturing, wholesaling, retailing and the consumer.

The next product studied was frozen fish filets. The package—"Taste O'Sea," distributed by O'Donnell-Usen Fisheries of Boston.

Study of the old package showed that it needed: more appetite appeal, more legibility and a design that would permit advertising of the products in the line.

Twelve designs were prepared and mounted on actual dummies over the package. These packages were tested among different groups of women.

The new package is made up in six-color gravure, showing the filet, broiled. Results? The product showed a gain of 50% for 1955 in contrast to an industry sales increase of 15%. The company stated, "It is our close guess that two-thirds of the increase is directly attributable to the new overwrap."

The next product may seem off-beat in terms of packaging. I offer it because it presents dramatic evidence of the dollar value of a new package. The product is Plymouth.

Plymouth's share of the market in 1954 dropped badly. It ran a poor third. Design went to work and Plymouth jumped in its share of registration from 6% to 9%. Its fourth-quarter sales ran 50% ahead for the same period the previous year. Chrysler increased its net profit 5½ times over the previous year.

Let's look at the Bunte Brothers Chase candy. Analysis showed that on the old package: (1) More prominence was given to the company name than to the candy name. (2) The item name was printed in small type and often consisted of three or more words, most of them meaningless to the consumer.

Yet some packages outsold others. This gave Bunte Brothers Chase the cue to transform their complete cellophane bag line.

The actual sales test was made in 10 stores of a prominent food chain in the Midwest. None of them, at the time, was handling their line. Their package of Rainbow Mix was displayed alongside a competitive package regularly sold by those stores. Although the Bunte Brothers candy was designed to retail at 29¢, it was marked up to 33¢, the regular selling price of the competitor package. Both packages were the same net weights. The 10 stores sold almost 20% more units of Rainbow Mix compared with the competitive item. Other tests showed similar results.

For the new package that sold so well, the bag was turned around so that more candy would be exposed to the leading edge of the shelf. Depending on the item, flavor or type of candy was featured on the package.

Another problem was how to get a good name for two brand new products—a new gas and a new oil—to be introduced by the Sinclair Refining Co. Before the new products could be launched, a new name with the attendant package had to be found. Eight million dollars were earmarked to be spent on advertising.

A preliminary study was done with 24 selected names, using association tests and different motivational research techniques. The five strongest names were selected for the final master study. When the results were in, one of the product names selected by the dealers was surprisingly close to the favorite preference of the motorists. The name for the other product came reasonably close among both groups. Interestingly enough, none of the names selected by management got top preferences in the studies.

The *Wall Street Journal* reported that Sinclair showed a 9% gasoline sales increase against an industry rise of 6%. The trade attributes much of Sinclair's sales jump to wide customer acceptance of its POWER X gasoline. In other words, Sinclair's premium gas sold the first year at a rate 50% higher than other premiums on the market.

Analysis showed General Mills that Betty Crocker's brand identification was weak; it lacked the connotation of quality and there was little family identification.

In 1954, the company retained an outside design firm—Lippincott and Margulies—who recommended the use of a spoon symbol.

Last year General Mills increased the quality connotation by the use of a larger and better product illustration without diluting brand identification or family identity.

In the field of cake mixes alone the total market more than doubled in the last five years. The Betty Crocker cake mix quadrupled in the same period.

Each design change was researched by the Color Research Institute of Chicago. In addition, the major design changes were tested in a limited number of stores.

Sales for American Safety Razor in 1953 had levelled off at 250,000 units. The problem was to find out how to increase the sale of these units.

Market research entered the picture and reported to management that a basic reason for the drop-off in sales was a loss in effectiveness of the point-of-purchase impact of the individual package. Field research showed that it was difficult for the prospective consumer to see and feel the package. Razors and blades were mounted in full view on a rigid individual display card, which, in turn, was set upright on a six-unit counter vender.

The cost of packaging each unit actually decreased and, catering to the consumer's buying pattern, this unit was put on the market and sales jumped to more than a million units—a 400% increase.

Merchandising consultant, Victor Lebow, found that against the background of poor hosiery sales in the Grayson-Robinson chain, half of the volume was in irregulars and only one out of every four of the sales was in more than one pair. The company then packaged their stockings, two pairs to the box, graded them for length, added a U.S. Testing Laboratory seal of approval, explained the program to the sales clerks and floor managers, and then cashed in on national advertising.

Stocking sales, two pair to the box, rose to 75% from 25%. The hosiery volume doubled the first year. It has been highly profitable ever since.

Startex had a conglomeration of brand names, labels, shipping and carton sizes. Harry Lapow of Koodin-Lapow design firm interviewed 46 merchandising directors in 32 department stores, including buyers, assistant buyers and 54 sales clerks. He interviewed nine chain-store buyers and 21 jobbers as well as buyers of club plans and six editors. He went on the floor of the factory, the assembly line and shipping room. Here is what he found.

The numerous names in the Startex line made for a conglomeration. They had 172 labels of different sizes, colors and shapes. Stores displayed the merchandise standing on end, to save space. Since the labels were designed for horizontal display, they were difficult to read. Consumers objected to a pasted-on label, which calls for washing before use. If the label was torn off, the toweling had no identification. The average sales clerk knew very little about the product, Cellophane did not stand up, it cracked and merchandise became soiled. The recommendations leading to the new package were as follows: (1) Standardization of final fold size, regardless of towel size. (2) Use of cardboard stiffener. (3) A wrap-around label to replace the glued-on label. (4) A new uniform Startex trademark. (5) Eight labels to replace 172. (6) Imprinting of labels at a single location by automatic machine. (7) Vinyl film for the wraps. (8) Standardization of shipping carton sizes.

With the new package sales figures are very gratifying.

In-Plant Parts Handling at Douglas Aircraft—T. E. MECHEM, *Supervisor, Plant Engineering, El Segundo Div., Douglas Aircraft Co., Inc.* The airframe manufacturer is faced with an entirely different conception of the word "production" than is the rest of the general industry. This is due not only to the complexity of the article, but mainly to the small releases and their effect on production.

Therefore the material handling and packaging is not akin to the mass production of the well-known Detroit automotive methods, but presents tremendous problems of handling the tooling required to fabricate and assemble these parts and of the processing and the special handling and packaging of these delicate parts and assemblies.

Influence of electronics and high speed upon aircraft, plus close competition among manufacturers, forces an entirely new concept upon manufacturing, packaging and material handling.

It has been found necessary to use all space economically, by use of height of a building to its extreme limits. Spars and bar stock are stored in demountable racks. These racks can both be picked up with sling and outside clamping arm grabs. In the material warehouse there is 100% crane coverage to handle the large volume.

In storing of packaged miscellaneous products from carpeting, glass, storage tubs to wire spools, whenever possible demountable storage racks are used, allowing the entire storage area to become a fluid, ever-changing operation, which is vitally necessary in airframe manufacture.

Overhead cranes with slings handle the coffins which contain small aluminum tubing, extrusions and other difficult storage items. All sheet stock is stored on pallets and stacked in the warehouse. These pallets are removed by man-saver grabs and lowered to floor position where the proper sheets are selected for the shearing department.

The storage of steel angle iron, tubing and bar stock presented a problem in the area alloted, as it was inade-

quate to store the total amount required by the materiel department of both the select bin item and the coffins.

It was, therefore, necessary that the racks be made strong enough to hold the additional supply of material received from suppliers. When additional material is required in the lower racks, the coffins are removed to the floor and the supplies replenished. In one bay 3,000 sq. ft. of storage area was saved by this installation.

A purchased parts storage stockroom contains bolts, nuts, stationery, cotter keys and rivets. Trailers deliver parts from the receiving-inspection area and they are dispatched to the various levels by conveyors. The third deck is used for storage of lighter products.

A production stock item train takes a full load of stock items to be redistributed to the subassembly and assembly lines throughout the entire plant. The purpose of these trucks is to replenish the supplies of the small cabinets which are strategically placed throughout the various assembly areas. The stock items in the areas are called "Free List Items" and are in open bins.

Palletized storage lines practically every aisle of the material storage areas. Lift trucks are often used to handle these products, again using space to its maximum.

The painting department and paint storage had a tremendous problem in the mixing of different paints for use on planes, due to the rigid Navy specifications. It is, therefore, necessary to have a very balanced chemical mixture of paints which have not aged, settled or chemically deteriorated in any way. Therefore, it is necessary to mix paint daily and supply it to the various paint stations throughout the plant. Paint is metered to the mixing tanks to very exacting amounts through a piped system along with thinner for a balanced mixture.

In the old method all of the parts which were ready for shipment were placed on shipping tables, wrapped properly, identified and Navy inspected for packaging. We solved our packaging and handling problem by constructing a breadboard which would slide in and out of the cabinets. These more than compensated for the efforts, as our efficiency in shipment likewise improved. These cabinets, after inspection, were rolled to the shipping department where they were convenient for the workmen placing them in cartons or boxes for shipment. A neat layout is possible using removable shelves. The entire cabinet is contained in a 36-in. width and has rubber casters for transporting to crating area.

As parts are received from the production department they are packaged, wrapped and sealed according to Navy specifications for overseas shipment and stored in the racks. From these racks parts are taken to the breadboard carts.

At one time in 1951, a request was received at our office for 1,500 additional Mercury trailers from the production and assembly departments to maintain delivery service. From a layout standpoint it was impossible to comprehend that many additional trailers floating through the system and using valuable floor space. Therefore, it was necessary to devise another method of handling and packaging.

Rather than order 1,500 trailers as requested by the shop areas, a three-tier shelf truck was designed which was attached to the existing Mercury trailers. After installation, it adequately held all parts in the system.

The three-tier trailer solved a problem at the time. However, after two years of use another problem arose in our fabrication departments—that of mass movement of work to the next load station. A trailer did not move until fully loaded. Therefore, the next department received too much material at one time. Therefore, a basket trailer conveyor line was proposed to move parts the moment an order is completely finished and inspected in any one area.

The overhead aerial trailer is a 3-ft. by 6-ft. basket and dispatches to some 16 stations. The conveyor is approximately 3,000 ft. in length and covers the entire fabrication departments. This conveyor transfers parts to successive operations throughout the fabrication area, then to the new anodic-iridite processing painting equipment, thereby eliminating the dozens of trucks in aisles and—most important of all—pacing the work for the next load station.

Due to the small airframe parts to be fabricated in one plant, it was deemed advisable to install a conveyor which would eliminate all of the mass handling and, as parts are completed from each department, hang them on hooks and deliver them to the wash, iridite and painting system in the basement and eventually on through to the unloading station of internal transportation. Each part is hung individually and is not removed until all processes have been completed.

Tuesday session

Chairman, F. X. GOLDEN, *Purchasing Agent, Advertising & Sales Promotion Materials, General Foods Corp. Assistant Chairman,* RICHARD J. HENNESSY, *Head—Package Development & Standards, Lederle Laboratories Div., American Cyanamid Co.*

The Synthesis of an Adhesion Policy—DR. FRANK C. CAMPINS, *President, Polymer Industries, Inc., Springdale, Conn.* An adhesion policy was defined by Dr. Campins as one aimed at the insurance, the economy and the progressiveness of the adhesion operation. To succeed in all three aims, however, the adhesion operation must be viewed as but one event in a dynamic situation.

Insurance begins with knowing and providing for the end requirements of the adhesion; economy involves the production of the maximum number of quality units by some efficient mass-production method; progressiveness means there is a better way to perform the operation.

Good adhesion, Dr. Campins said, is basically the ability to succeed in the function demanded of the product. Good bond strength is, therefore, not necessarily good adhesion, which must carry the burden of a multiplicity of operations. Thus, each function places different demands on the criteria of goodness and the requirements may be as far apart as: (1) being soft and yielding and having slip, (2) being hard and fibre tearing. Only the dynamics of performance of the bonded stocks will determine what is good. The type of adhesion needed is defined in reality outside the area where the adhesion is performed and necessitates a study of bond performance, or what Dr. Campins termed making an operational analysis.

In making this operational analysis, the researcher is concerned with moving from the field of adhesion as an art to adhesion as a science. In the former instance he is working with variables that occur in groups, so that the effect of the individual variable is unknown, and he is fumbling with the unpredictable. In the latter case he has segregated the individual variables and determined the effects of each.

This process is achieved, according to Dr. Campins, through the tool of the "autopsy of failure." When dealing with adhesion performance, there should be "no death without an autopsy," he added. Progress will be marked by a gradual change from quality terms to quantity or size language. From isolating static fragments will come future dynamic adhesive performance, he promised. For final success in the adhesion operation is based on a full understanding of the complementary relationships between the adhesive, the stocks and the engineering manipulation of the components of every adhesion operation—the adhesive, the stocks and the engineering.

Further operational analysis reveals that the engineering manipulation is itself a sequence of three processes: (1) application or activation, (2) bridge forming and (3) establishment of equilibrium.

Product and process form, respectively, the complementary static and dynamic aspects of the operation. Consequently, testing to insure performance concerns the integration of static with dynamic properties. For product must serve process and vice versa.

The prior history of stocks must be gone into; the components of the surfaces and the body of the materials thoroughly studied from the standpoint of their effects on the adhesive formulation and behavior. Surface factors, such as area, depth, discontinuity of surface, all contribute problems to the adhesion system. The reservoir action, the shapes, the affinity and the flow yield of the body of the materials, all are important. Design of the proper adhesive and adhesion method revolve around the worst, or most difficult, area or set of conditions.

The big problems of all such testing include: (1) The establishment of the critical aspects of the dynamics of performance demanded of the bonded stocks. (2) The setting up of simple (static) tests that tie in with these.

Operational analysis is focused on the stock and the adhesive, in order to tie these into the dynamics of performance. The complementary static and dynamic relationships between stock and glue must be understood to set up policies for testing. The implications and consequences of these complementary relationships must be analyzed closely so as to establish how to achieve the minimum cost of (insured) adhesion.

A thorough grasp of these complementary relationship forms the basis for a progressive adhesion policy.

Packaging and Packing Panoramic Windshields— MELVIN C. KOESTER, *Packaging & Materials Handling Engineer, Libbey-Owens-Ford Glass Co.* The executive management of Libbey-Owens-Ford early in 1949 anticipated the need for specialization and coordination in the field of packaging and handling of all products when they created a Packaging and Handling Department. They further saw the need for the scientific approach to this complex problem and provided a complete and modern packaging and testing laboratory.

The first assignment of the packaging group was the palletization of automotive glass. But the thorough study and subsequent design of two types of palletized containers helped a great deal in the packaging and handling of panoramic (or wrap-around type) windshields which were not introduced until 1953.

Data were gathered from all customer plants as well as the company's own on flow, methods of handling, storage and types of handling equipment available. From this study was established the over-all requirements of a satisfactory type of palletized container. Seven of the major requirements were as follows: (1) low cost; (2) structurally strong, but light in weight; (3) ability to "knock down" and palletize for ease of handling and minimum storage requirements; (4) designed to assemble quickly and easily; (5) designed to pack and unpack with one side open and the lid removed; (6) ability to be closed quickly and easily, and incorporation of fairly tight construction; (7) designed to be handled by overhead crane with grab hooks as well as with fork-lift truck or transportors—bases to have four-way entry.

A survey of the open market failed to produce a container that would meet all seven requirements. So, with the assistance of vendors of wirebound and panel boxes, the company designed a palletized wirebound and a cleated corrugated container which did meet them.

In the approach to packaging and handling of panoramic windshields, many problems were faced other than the actual packaging. Additional working space and storage areas were required. The company had to revise the flow of materials and increase and re-arrange finished-stock storage areas and also request additional loading space and trackage. Management was provided with estimated information and area layouts of the requirements for expansions in the packing warehousing and shipping to facilitate the start of construction of buildings and the purchase of necessary new equipment.

When designs were frozen in 1953 and windshields and rear-window bends established, the development of the program was begun with the following points as a guide: (1) flexibility—to cope with yearly model changes and variations in production; (2) standardization of containers and inner packing; (3) strong but light-weight containers; (4) establish proper quantities per case so all glass parts could be shipped in complete sets or jobs; (5) containers of minimum size to utilize warehouse areas more fully; (6) containers and inner pack to be received in "knocked-down" state, palletized for minimum storage requirements and ease of handling; (7) speed and ease of assembly of both containers and inner pack; (8) unobstructed packing and unpacking; (9) closure of containers to be simple and fast; (10) economy of operations and materials; (11) inner pack to support and protect windshields during *packing* and *unpacking* operations as well as in transit; (12) use standard materials readily available in volume; (13) clearly mark all materials for easy identification; (14) ability to pack consistently without error; (15) containers susceptible to handling by all types of handling equipment.

Studies were started by making full-size layouts of each windshield to show the curvature, shape and size in order to establish clearances, spacing and best points of contact at which to pick up loads and support each windshield.

With these layouts were determined the number of lights to be packed in each container and the size of the container. Then, by comparison of layouts it was found that several windshields had common points of contact and were of similar size and shape. This allowed the company to standardize, by careful designing, both containers and inner pack. But before proceeding with the actual design of the pack, it was necessary to estimate weights per case and make carloading layouts to provide the maximum number of sets per car to meet the minimum weights of 50,000 lbs. This information, plus estimated schedules, was given to the Traffic Department in order to procure equipped cars for the service. It was also necessary at this point to review estimates of working areas, flows, storage and loading requirements, using actual case dimensions and number of pieces per case to formulate final area and storage layouts for production.

In designing the inner pack, full-size layouts were projected to show the windshield in its actual position within the container, with the necessary clearance between the windshields and the inside faces of the container. Then, by locating predetermined points of contact, the company was able to design supports to carry the load and restrain the windshields from movement in transit. Many types of material were tested before development of a built-up corrugated paper log, notched to provide accurate spacing and support. By the use of triangular supports at the bottom ends of the case it was possible to hold and support the windshields in position individually during the packing and unpacking operations, as well as restraining them from movement in transit. By using the same spacer log at a common contact point on top of the windshields, it was possible to space and hold the windshields top and bottom within the pack. This top log was reinforced to assure its staying in place with a wooden channel-type brace nailed into position through the side of the box. This wooden channel and log also applies the downward pressure necessary to keep the windshields in proper position and maintain clearances in transit. Then, by means of strategically placed steel strapping, after closing, the entire container is pulled into a very tight and structurally sound unit with the glass fully protected from pressure or strain.

This flexibility and standardization of design made all parts of the container and inner pack interchangeable, thus reducing errors in packing to a minimum. A case of 25 panoramic windshields is packed in four minutes.

To check the design physically, the company prepared an improvised pack to exact inside dimensions with supports in place and checked the ability to pack and unpack one light at a time without damage. With this possible, a

series of tests was made with sample packs to evaluate the performance under simulated transit conditions. After making vibration and conbur impact tests, modifications and corrections were made and the tests repeated with standard production packs with impacts up to 10-12 mph. Also made were field trials via carload, less carload, truck load and even express, before acceptance for production.

After final acceptance of the pack, in order to set it up for production, the company prepared detailed drawings and specifications for all parts of the inner packing and containers. Material lists were also included for ease and accuracy in purchasing. Detailed assembly drawings showing methods of assembly and proper placing of the inner pack were made. Packing instructions were issued to insure engineered protection for these valuable windshields.

Finally, it was necessary to supervise personally all operations at the start of production. Company representatives also visited and instructed customers' plant personnel in the proper handling and removal of the windshields from the containers without damage. Based on experience with these containers, in which approximately 4½ million windshields were shipped in 1955 with a loss of less than one-half of 1%, a similar packaging program is being developed for the 1957 model cars.

How You Can Accurately Measure Your Printing Quality—DONALD MACAULAY, *President, Paper & Printing Quality Control, Inc.* In the field of statistics there are two terms for measures commonly used, one variables and the other attributes. The use of variables involves instruments. That is, where we use scales, gauges or meters—any device which when used for calibration gives a value not determined by human judgment. Many measurements used in the graphic arts and for which the statistician gives great assistance start from the receiving of materials on through production activity. The weight and bulk of board received in a printing plant, the reflection reading of the brightness of paper, the densitometer reading of thickness of ink, the measurement of torque in the opening and closing of cans or jars, and the variation in weight in the converting of waxes, laminates and adhesives. There are a thousand other variable measurements.

Attributes involve human decisions. The graphic arts are particularly dependent on many properties mostly visual in character, where we can only measure by attributes. It is necessary, therefore, on both the decorative as well as functional qualities of packaging materials to set up standard defect values with human judgment. The inspectors, properly screened and trained, can do uniform work. We have often proved that we are on solid ground as to the merits of their talent as a measuring instrument.

If we can reduce those decisions to a numerical value they then become reproducible and, as a matter of record, comparative with other records.

One other statistical demonstration is the simple, normal curve space. We can demonstrate in practical experience that the measurement of many pieces of any manufactured product always results in a definite and persistent pattern.

The cause of the similarity of this pattern is answered as follows. In the fabrication of products coming off a machine there are influences caused by the man, the machine and the materials in which there are an infinitely large number of minor chance causes always at work. In the measurement of printing quality, for example, you have plates, paper, ink, presses and craftsmanship. All these chance causes affect or influence in one direction or another the variation of the final end product from the ideal or okayed. Therefore, whether it be a printed piece or the materials feeding into it or the production coming off it, for all these processes such a pattern always exists.

More important, however, for this manufacturing process this repeating pattern will continue as long as the same chance causes continue to repeat themselves. Therefore, from the fact that this pattern repeats, comes the ability to predict, first, the limits of the process in the future, providing there is no fundamental change. This is all there is to the scientific basis of statistical techniques. Without change and chance causes, the pattern should repeat itself from hour to hour and day to day and month to month within predictable limits. Good production comes, therefore, when the pattern is repeated and when these tolerence limits put to the upper and lower areas are so set from known capabilities that it is possible to reproduce constantly a certain set of studied conditions.

Of equal practical value is such a distribution curve and the knowledge of these predictible limits so that any departure from this pattern is a sure sign that something is wrong. No longer is the product being influenced by these small chance causes previously mentioned. Some basic change has occurred in the conditions affecting this production; some assignable cause of variation that can be tracked down and eliminated. Not only can we track down the cause, we can track down the amount and we can track down where it happened. We can come up with how much a thing has gone off, where it has gone off and why it has gone off. You eliminate many of the things that have plagued the buyer and producer of printed materials.

Most comparisons defining quality defects can fall into normal categories of good, fair and poor. In setting up these types of statistical measurements of printing properties and qualities, it is almost impossible to create a refinement any greater than good, fair and poor and still get speed of inspection and acceptance within economical limits. It is possible to take, therefore, the assignable defects that the buyer will or will not accept and put them out in terms of degree of good quality, fair quality and poor quality. The statistician then suggests that on the good quality we mark zero; on the minor qualities—a defect score of 1; the major—3; and the critical—6. The minor defects are those which are without question acceptable to the customer, but are still noticeable defects. The major defects (3) are those which probably will be acceptable by the customer or production line and marketing divisions. The critical defects (6) are those unacceptable to the customer and only a minimum can be tolerated.

Once we have reduced defects to a numerical value it is possible to create some form of process or quality evaluation of this material.

On receipt of the materials a buyer can set up a specific acceptance criterion. He can take his standards of color, of register, smears and streaks, broken letters and fill-ups, and he can set with any one particular package or any one particular repeating design or a group of designs a standard criterion with numerical value. He can train people with professional skills to determine and evaluate, sometimes to a degree of accuracy that baffles his supplier. He can summarize this information from these quality evaluation charts and record these defects by name, number and severity to some form of master record. He can summarize further, so that at the end of a month he has a plotted record to compare against initial standards. When he takes these forms of evaluation for a longer period of time he creates a graphic specification against the realistic capabilities of various suppliers. He will find out graphically a thing which he knows now—that one supplier sometimes differs drastically from another. Many times he tolerates these differences, particularly because he doesn't catch the significance of their fundamental cause. Once differences are summarized on some form of process evaluation, the corrective action becomes more logical and sometimes economical. Certainly any form of summary data to higher management graphically presented becomes a more intelligent means of communication of the purchasing materials. Needless to say, this graphic information translated back to the production people gives them a chance to determine within predictable limits the success they will enjoy.

If a buyer or producer should choose to test new suppliers or materials, it is easy to set up a controlled experi-

ment either at the press or at the receiving station so that an evaluation of these changes can be made. Therefore, the buyer or producer can find out the great variety of defects that may occur and their degree of severity. He can find out when, if he keeps time sequence in mind, and he can tell how much, if he has the total yield information. Some of these techniques are so well integrated that the buyer is being supplied control charts of quality from the producer. This idea takes time and great understanding.

Let us illustrate specific cases of use of these statistical tools. At the level of raw material, one producer of roll stock printed the same paper on one-, two- and four-color equipment. We devised a test for him and as the hundreds of rolls left the mill a strip from each, identified, was sent our laboratories. We evaluated each and forwarded to the buyer a ranking of the rolls best for four-color work and two color, with the balance for one color. We were 85% accurate and also prevented poorer rolls being used in the critical areas. Once the test was proved successful it was given to the mill and now they separate the rolls.

A converter using skilled techniques for getting real facts and not opinions found a setting of adhesives running 7½ lbs. plus or minus 1½ lbs. This setting was to prevent any low adhesives being shipped. After control data were collected and modified control limits tried, we were able to reduce these settings ½ lb. or 7% and still pass all minimum specifications.

A purchasing agent had a problem of bulk variation plaguing him in the vast quantity of paper he was using, because this variable in turn caused defective finished products. The final converters insisted they needed less variation. Again staff analyses, usually better because they have more flexible time and skills, disclosed the variations from suppliers. Here it was a case of slow revision with the dropping out of two sources that should not have been included. At the end of one year the defects and rejects of finished goods dropped more than 50% and during the same time the specifications for the tonnage were dropped some 4% with a saving close to $100,000 in paper bought.

Organizing a Packaging Committee—Panel

Chairman, RALPH A. O'REILLY, JR., *Packaging Engineer, General Motors Corp. Assistant Chairman,* JOSEPH F. HANLON, *Supervisor of Package Development, Johnson & Johnson.*

WILLIAM T. EGAN, *Director of Packaging Research and Development Dept., Colgate-Palmolive Co.* The Packaging Department of the Colgate-Palmolive Co. was combined from various divisions in December, 1954. Its formation was the result of earlier studies within the company and also a study made by outside consultants. The Packaging Section is a division of our Research and Development Department and the head of the Packaging Section reports to the Vice President of Research and Development.

In the Research and Development Department there are four sections, namely: Technical & Administrative Services, Drug & Toilet Goods, Soaps & Synthetic Detergents, and Packaging. Each section is under a Director of Research and these directors report to the Vice President of Research and Development.

Packaging was made a part of Research and Development because we work very closely with both development sections of the department and also depend on the Technical Services Section for analytical, quality control and other services for assistance.

The Packaging Department consists of five divisions, namely: Packaging Changes Division, Packaging Design Division, Packaging Specifications Division, Packaging Laboratory Division, Packaging Cost Analysis Division.

The Packaging Department is assisted by many departments in the company. The Purchasing Department is very helpful and works very closely with us and our suppliers. The Cost Department develops costs and supplies data for us for all plants. The Industrial Engineering Department assists in coordinating our packaging work with the Production Department, especially on equipment requirements. Our Automatic Machinery Department works with us on specifications for packaging in relation to packaging machinery. Market Research aids in the proper selection of designs, sizes, etc.

Mr. Egan illustrated his talk with organization charts.

CLAYTON HENRICHS, *Production Methods Engineer, Ayerst Laboratories, Inc.* In our set-up the Package Committee membership consists of: Vice President of Sales, Director of Product Development (Chairman), Vice President of Production, Director of Advertising.

This group directs the activities of the plant technical committee. They review the needs for a specific package unit, design change for a specific dosage form. This is turned over to the Technical Committee by the Vice President of Production. When one or several possibilities are uncovered, one is approved or all are returned for further work. It is essential that this group be made up of those people who can make the final package form decision.

The Plant Technical Committee is made up as follows: Vice President and Assistant Vice President of Production, Production Superintendent and his assistant in charge of packaging operations, Purchasing Agent, Quality Control Manager, Traffic Manager, Methods Engineer.

The committee meets in formal session once a month for discussion of all current packaging problems as handed us by the Packaging Committee and a course of action is determined. Also discussed are those items which need study. No packaging problem or condition is sacred to this group. This group is expected to recommend a complete package, thoroughly tested, with all costs established.

It is the job of one person to obtain every viewpoint and follow up within the framework established, obtain the sample units available or required, work them into the laboratories, check production requirements, highlight cost changes, receive the reports and compile the story. Costs are prepared with the aid of accounting. The mechanical and shipping requirements are established, so there is no hold-up in production and distribution. Specifications are written. The whole deal is then discussed in a full meeting so the Vice President of Production can present the full and complete story to the Packaging Committee.

Here are some of advantages that have accrued:

There is a more exact study of our needs for materials, mechanical equipment, production difficulties and costs.

Everyone is fully aware of what is required to make and assemble a package, and the need for just such a pack.

There are fewer last minute changes, because all factors are available before a final decision is reached.

There is greater understanding between sales and production about each other's needs.

Everyone feels freer to submit ideas.

We have a greater knowledge of the packaging field.

We receive better service from suppliers, because we know what they can do.

And because we invite our suppliers' opinions, we find them giving us the lowest possible costs and opening up their laboratories to us.

The need for job descriptions and job training has been highlighted for best costs and quality.

A note of warning should be injected here. There must be a written policy for each group. This must include the scope of work for each group and the duties of each person comprising the group. Without diligent administration the very best scheme can fall down and the advantages of many voices and eyes will be lost.

F. H. WILEY, *General Supervisor—Materials Handling Research, Manufacturing Research Dept., International Harvester Co.* Rather than set up a separate division to con-

trol packaging, as some other companies have done, our management has seen fit to draw on several existing divisions and departments to organize a Parts Packaging Policy Committee. The chairman of this committee is the Vice President of Supply and Inventory. The other two members are the Vice President of Merchandising Services and the Vice President of Manufacturing. All of these are staff functions reporting to the President.

Reporting to this Policy Committee is an Operating Committee consisting of representatives from both line and staff departments, including Order and Distribution, General Sales, Motor Truck Sales, Consumer Relations, Price and Contract, Industrial Power Sales and Manufacturing Research.

The Operating Committee develops recommendations for policy and provides solutions to individual problems. Those subjects, where necessary concurrences cannot be obtained, are referred to the Policy Committee for final decision.

To convert the policies into operating procedures, and vice versa, two subcommittees were appointed. One consists of representatives from the Manufacturing Operations, the other from Sales Departments. For example, in the Manufacturing Subcommittee each manufacturing division is represented by one materials-handling engineer from that division and broad representation is required from the staff units in order that they may present their problems and we can arrive at a policy that is applicable.

Each representative on the Operating Committee has a specific interest in the decisions of the committee and a responsibility for an appropriate phase. For example, the Consumer Relations Department is responsible for the advertising material that appears on the package and the artwork required. The Scheduling and Distribution Department has the responsibility of providing information for determining the unit of sale which the customer ordinarily buys. Manufacturing Research Materials Handling Section makes specific recommendations on the types of protective packaging and available materials and prepares the necessary standards. The design of specifications for the regular routine package job is the direct responsibility of the Works Materials Handling and Packaging Engineer.

The representative from Scheduling and Distribution also acts as secretary to the Operating Committee, channeling all correspondence regarding service-parts packaging to the individual concerned.

Prior to the establishment of the Parts Packaging Policy Committee many of the operating procedures on packaging were developed in the Materials Handling Committee. The Materials Handling Committee is composed of the Materials Handling Engineer from each manufacturing works, with representation from Foreign Operations, Traffic, Scheduling and Distribution, Materials Control and Consumer Relations.

Two meetings a year are regularly held by this committee and as a part of their agenda packaging problems of immediate concern are discussed. The Materials Handling Committee provides a common ground to thrash out differences which arise between operations and provides a means of spreading information concerning new ideas and successful applications. From time to time subcommittees are set up to develop specific programs of common action and divisional interest.

The Materials Handling Committee continues as a forum on common packaging problems, with the Packaging Committee formulating general policies. The responsibility for approving packaging-materials standards has remained with the Materials Handling Committee. This particular committee has a much wider representation in the over-all materials-handling problems throughout the company and is more closely associated with packaging-materials use.

The staff departments which are directly involved in the packaging functions include Consumer Relations, Purchasing and the Materials Handling Section of Manufacturing Research.

The primary responsibility of Consumer Relations is the development of sales appeal in merchandising programs. Consumer Relations measures its effectiveness through market study. It determines market trends and then consults with the affected Sales Department to decide which items should be packaged. Large-volume items naturally receive first attention. It is interesting to note that of our service parts, which presently number more than 350,000 items, 75% of the sales volume is produced by approximately 3,000 parts. In the past year, Consumer Relations has succeeded in putting IH identifications on some 2½ million packages which were not so labeled before.

Pool buying has resulted in lower purchase costs on many packaging materials to the individual works, as it provides for fewer set-ups, longer runs and uniform appearance of the product. In connection with this program, the Scheduling and Distribution Department maintains a pool of standardized packaged materials, such as fibreboard cartons, corrugated containers and polyethylene bags, from which works, vendors and contract packers may draw as required.

A primary responsibility of the Manufacturing Research Department is the development and testing of methods and equipment for the improvement of manufacturing within Harvester. The Materials Handling Section has been assigned the fields of packaging, packing, warehousing, vendor and collateral handling, and loading as well as in-process movement. We assist the Works Materials Handling Engineers as required on specific problems in any of these fields. A complete laboratory with specialists in the various fields is provided at our headquarters. The present staff consists of 20 people.

As a natural extension of our work with materials and equipment the Materials Handling Section develops standards for circulation by the Standards Sections. The standards are records of established practices and specifications for purchased and company-produced manufacturing materials.

In the preparation of a standard, Manufacturing Research makes inquiries of works, vendors, trade associations and other interested people. They then write a first draft which is reviewed by the Standards Section. A proposed standard is then submitted to all the Works Materials Handling Engineers and such other Harvester personnel as may be directly concerned. They recommend changes and possible clarification as applied to their operations. After this is incorporated in the standard, it is referred to the managers of various divisions for final approval. The result of this procedure is that the standard has a reasonable assurance of acceptance. While a standard is not compulsory in all cases, the works have found them beneficial. We do know that all of the containers as developed in the works conform in general to the standards of identification and materials which we have published.

We have an inspection procedure on packaging materials. It is, however, strictly a works and divisional responsibility. The Quality Control men in our various plants inspect our incoming purchased material. Controversial items are referred to our laboratory for checking and further study under actual tests. Completed packages are tested with conventional packaging laboratory equipment.

Our complaint procedure has been followed for many years within the company. Our dealers, works and our parts depots refer through the Scheduling and Distribution Department to the works and Manufacturing Research any complaints that they have regarding protective packaging. From this we are able to judge and evaluate the adequacy of the package protection that we are giving our product.

The Materials Handling Engineers at the plants have as a complete guide certain general policies developed by the Policy Committee that they follow in packaging new service parts.

Packaging Engine Parts for Original Equipment Manufac-
[*Continued on page 161*]

Here's how. Spots of color mark the position of each puzzler. Each spot is punctured. Puzzles are quickly laid in place and a piece of KRENE Cast Vinyl Film draped over the whole board. Vacuum then pulls the film tight to the flat cardboard and forms it snugly over the puzzles.

How 4 different types of packaging made of BAKELITE Plastics help you...

Fit the package to the job

KRENE Cast Vinyl Film solved this packaging puzzler—how to eliminate 12 separate fastening operations . . . keep the package clean . . . keep moisture out . . . and increase overall package appeal. Vacuum packaging is the process.

Toughness, low moisture vapor penetration and brilliant clarity is a unique combination of properties that could well help you make a package to fit your job. For samples of KRENE Cast Vinyl Film write Dept. OU-105.

(continued on next page)

Fit the package to the job

(continued from preceding page)

Polyethylene-inner-coated bag for "Tenco" instant coffee is made by Shellmar-Betner Flexible Packaging Division of Continental Can Company, Mt. Vernon, Ohio.

Addition of polyethylene coating solves "air leak" problem

The job here is keeping powdered instant coffee dry—for use in vending machines. Former packages developed tiny air leaks which let in sufficient moisture to harden the coffee. (In a vending machine, free flow is imperative!)

The solution is a printed film-lined bag with an extra lining of polyethylene-coated foil... double protection in use, and a strong selling point.

There are many other ways to use coatings made of BAKELITE Brand Resins for job-fitting packages. And, for liquids as well as powders.

Try polyethylene film for big, tough transparent packaging

Size or shape is nothing to worry about when you package with film made of BAKELITE Brand Polyethylene. Look at this "big product" application!

Protection against moisture and dust is only one of the many advantages of polyethylene packaging. It's tough . . . stands up against sharp corners and irregular shapes. Excellent printability affords colorful display possibilities for your products on showroom floors. Protection in stock rooms is a big advantage, too.

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[*Continued from page 156*]

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The Production Control Department is vested with the responsibility and administration of the packaging and shipping of all commodities produced in the Valve Div. Service departments assisting the Production Control Department to fulfill their function are the Factory Engineering Department and the Industrial Engineering Department.

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The Packaging Engineer studies the requirements and is responsible for determining the most economical means of packaging and establishing standards for the methods. The information accumulated by the Industrial Engineering Group is relayed to the Factory Engineering Department, which is charged with writing the Packaging Specifications and keeping them up-to-date through an interchange of information with the Production Control Department.

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After the Production Control Department obtains the details on the cost requirements for the new packaging methods recommended, the data are coordinated with kindred departments in the Valve Div. and the necessary information is then given to the foreman in charge of the packaging department, who is charged with execution of the final requirements for packaging and shipping of the commodities.

The packaging specifications which are set up and maintained by the Factory Engineering Department list the pertinent data, which must all comply with the OEM requirements. This information is listed as follows: (1) part number, (2) identification of packaging materials, (3) number of pieces per box, cartons per box, and boxes of cartons per pallet, (4) type of preservative, (5) sealing methods, (6) standards, (7) weight.

A testing laboratory is available to test all packaging materials and new methods of pack. Additional tests are conducted on a use basis. A proposed method of packaging may be tested by transporting the packaged parts over long distances to determine the feasibility of incorporating a new method of packaging. In addition to the use of a salt-spray cabinet to test preservatives, some parts have been exposed to numerous weather variations for extended periods of time. This is necessary to assure that parts sold as replacement items may be stored indefinitely on the customers' shelves without deterioration.

In the early days of the valve business, the packaging method, while not efficient, was less of a problem than it is today. All valves, regardless of type or customer, were handled and packaged in the same way. All items were transported into the packaging area by means of a wooden dolly placed in a wire basket and hand dipped in a preservative. The valves were then taken from the wire basket and hand counted. After being wrapped with twist kraft paper, the valves were counted once again. They were then placed in wooden boxes that were banded after the cover was nailed on.

This was the method used until the early 1940s, when the packaging engineer began to make his appearance. When it was suggested that corrugated cartons be used instead of wooden boxes, it became necessary to check the principal customers to determine the condition in which the valves were received. Upon approval by the customers, regular slotted, corrugated cartons became the standard container for packaging. Current methods of packaging are dictated by the customers, valve dimensions and the desire to standardize the pack. The product is packed in such a way that the basic pack will fit into any shipping carton. Five major methods of packaging commercial valves have been established:

1. The replacement or service pack. Valves are furnished in this manner for original equipment customers' replacement requirements. The method consists of unitizing valves in boxes containing two, four or six valves, wrapped in neutral twist kraft paper and inserted in containers.

2. Semi-finished valves. These do not require the same protection as finished valves. Therefore, these semi-finished valves can be bulk packed. Approximately 350 semi-finished valves, not wrapped, are placed in each carton.

3. Bulk shipments. Approximately 100 valves per carton are individually wrapped in kraft paper when the customer has a volume requirement for replacement parts, or when quantity or size of the valve is such that it does not lend itself to the new pack method of packaging.

4. The new pack. This method of shipping finished valves to the original equipment engine builder was developed in the early '40s. The new pack was responsible for a substantial reduction in packaging cost, since it increased productivity by more than 200%. The majority of the valves are packaged in hole boards, which consist of pre-punched fibreboard sheets with holes on varying centers to accommodate different sizes of head diameters. Six different types of hole boards are designated, allowing for the use of 44, 60, 63, 88 and 108 valves. Through this standardization, the number of different cartons used has been reduced to approximately 15 different sizes.

5. The open pack. In this, the inner package is the same as the one just mentioned except that the hole boards are placed in corrugated cartons without flaps. The cartons are palletized on four-way entry expendable pallets with a fibreboard sheet covering each layor of cartons. Load units are secured with five steel bands. The full pallet load contains 9,000 valves and weighs approximately 2,000 lbs. This method has proved advantageous to both the Valve Div. and the customer, since it increases productivity, lowers cost and facilitates handling in the customers' plants.

The bulk packing is used for other automotive engine parts which are not required to be free of nicks and scratches. The only deviation from this method of packaging these items is the unitizing done in either envelopes or boxes upon request. Valve retainer locks and retainer caps fabricated by the Valve Div. are shipped in containers called "Keg Packs." These are fibreboard cartons with an inner lining and a sleeve cover, which save considerable handling and valuable storage space. The "Keg Pack" is stored knocked down and is assembled as required.

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Corrosivity of packaging materials

From Sweden, a method of quickly determining the electrolyte content of a packaging material as an index of the material's corroding properties

*By E. Wallenberg and B. Järnhäll**

It is sometimes observed that even carefully packaged iron articles are subjected to severe corrosion. Schikorr (1)[1] states that corrosion may occur due to condensation water from the normal moisture of the paper forming within the package as a consequence of the natural temperature variations.

But also the packaging material itself sometimes causes corrosion even if the pH value of the material is 7.0. The decisive factor in this case is the electrolyte content of the packaging material. The electrolytes initiate corrosion attack by their formation of local elements.

Stephansen (2), for instance, found that a paper having a pH of 4.8 and a NaCl content of 0.1 g./100 g. of paper did not cause corrosion in packaged iron products, while on the other hand a paper having a pH of 6.3 and a NaCl content of 0.43 g./100 g. of paper did cause heavy attacks. These values of the NaCl content had been obtained conductometrically on a water extract of the sample.

Stephansen also suggested measuring the conductivity of the paper upon a sheet stretched between two plate electrodes with the aid of a common Wheatstone bridge.

As to pH and electrolyte content, Schikorr and Volz (3) recently succeeded in proving statistically that there is a close relation between the pH of a packaging material, its electrolyte content and its corroding properties.

Also, special ions have been determined as a measure of the corrosive properties of a packaging material. Moss, in *The Paper Market* (4), states, in accordance with the Chief Chemical Inspector of the Ministry of Supply of Great Britain, an acceptable content of at most 0.05% of NaCl and 0.25% of

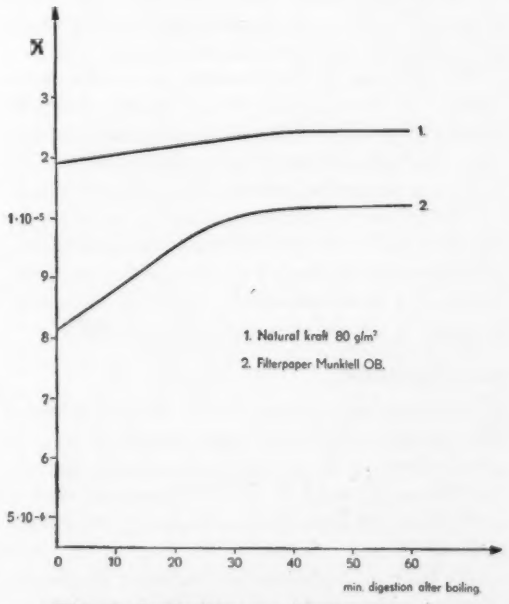


Fig. 1. Conductivity as a function of the time of digestion after boiling.

*Packaging Laboratory of AB Åkerlund & Rausing, Lund, Sweden.
[1]Numbers in parentheses identify "References" appended.

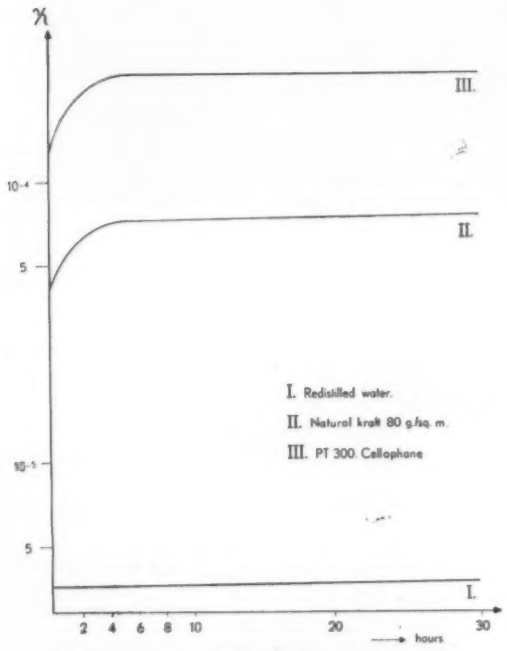


Fig. 2. Specific conductivity as a function of time at cold extraction of kraft paper and cellophane as compared with that of redistilled water.

$Na_2SO_4.Cl^-$ has here been determined as NaCl, and SO_4^{--} as Na_2SO_4 with conventional volumetric and gravimetric methods.

The British Standard Packaging Code (5) states 0.1% of Cl-ions as the highest permissible content, conductometrically determined as NaCl.

The purpose of this research was to develop a method of determination which quickly and efficiently gives information of the electrolyte content of a packaging material and consequently of its corroding properties and to establish the electrolyte content of some different packaging materials. In supplementation of these determinations, there was simultaneously conducted an investigation as a corrosion test under practical conditions, with iron wrapped in some of these packaging materials.

Experimental

The electrolyte content of a packaging material can be determined with great exactitude from a water extract of the packaging material by measuring the specific conductivity of this extract. Such a method is described in *Handbuch der Werkstoffprüfung* (6).

The basic principle here lies in boiling the sample in water, which must have a specific conductivity of $\chi \leq 4 \times 10^{-6}$ Ohm/cm. One then digests for 1 hr. on a water bath and then chills, whereupon the electric conductivity is measured with a suitable instrument. In our experiments, we used a conductometer of Swiss design, the Metrohm 182. It is supplied with a 50-cycle current of 220 volt (7 and 8).

The different factors which may influence the determination are:

1. The electrolyte content of the water prior to the extraction.
2. The time and the temperature of the extraction.
3. The influence upon the extraction water of the carbon dioxide content of the air.
4. The temperature of the extract.
5. The frequency of the current by means of which the determination is carried out.
6. The concentration of the suspension.

These various factors are discussed in more detail in the following.

1. The electrolyte content of the water prior to the extraction. The analysis requires a water of very high purity. As mentioned above, χ must be $\leqq 4 \times 10^{-6}$ Ohm/cm. Common distilled water usually has a specific conductivity of 10^{-6}. It is therefore necessary to take special steps to obtain a satisfactory water.

On double distillation according to the following, a water is obtained that has a specific conductivity varying between

$$\chi\, 18 = 2 \times 10^{-6} \text{ and } 1 \times 10^{-6} \text{ Ohm/cm.}$$

For preparation of such a water, ordinary dis-

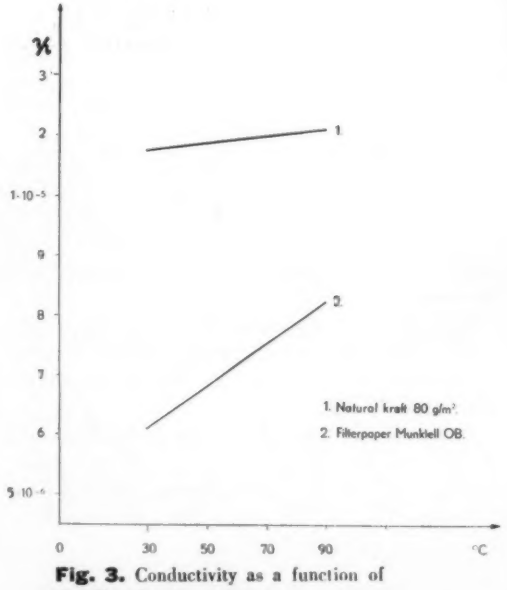


Fig. 3. Conductivity as a function of the digestion temperature.

tilled water is redistilled in glass-to-glass equipment,[2] whereupon it is boiled for 2 to 3 min. for driving off the carbon dioxide. A rubber stopper with siphon and a calcium chloride tube provided with soda asbestos for the absorption of carbon dioxide is then put on, whereafter the water is left to cool.

It has been stated that a water of the same purity can be obtained also by passing common distilled water through an ion exchange filter.

2. The influence of the time and temperature of extraction. Korn and Burgstaller (6) suggest that the extraction be carried out by boiling and subsequent digestion on a water bath for 1 hr. at 98 to 100 deg. C.

Launer (9), for the determination of pH, found that the same result is obtained by extraction for 20 hrs. at room temperature as by heat extraction for 1 hr.

To examine more closely the importance of the time and temperature of extraction for a complete dissolution of the electrolytes, the following tests were made.

To begin with, the time of digestion required was determined at 98 to 100 deg. C. after heating to boiling point. The materials investigated were natural kraft paper (80 g./sq. m.) and filter paper Type OB of Munktell's make. The water used for the test had a conductivity of $\chi_{18} = 2.75 \times 10^{-6}$ Ohm/cm. The conductivity of the extract was determined immediately after heating to boiling point, after 10 min. of digestion and after 20, 30, 40, 50 and 60 min. of digestion. The result is shown in Fig. 1. As will appear therefrom, the conductivity slowly increases during the first 45 min. and then remains constant. Thus, all electrolytes were dissolved after ¾ of an hour.

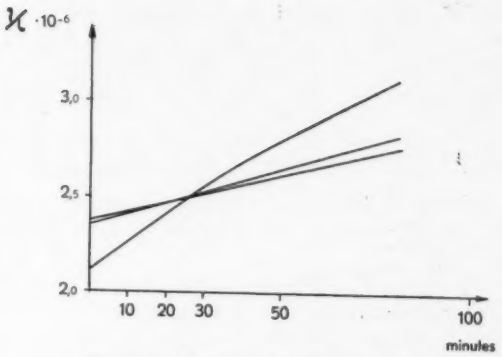


Fig. 4. Influence of the carbon dioxide content of the air on specific conductivity of redistilled water.

All values are mean values of three determinations of good mutual agreement.

The test thus shows that the time of digestion should be about 1 hr.

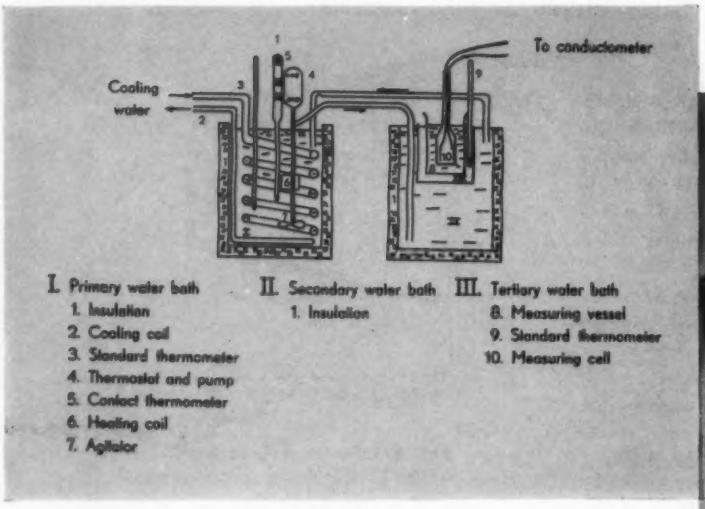
The continued investigations were made to establish whether one could accelerate the dissolution of the electrolytes by letting the water boil for ½, 1, 2, 3, 4 and 5 min., instead of using digestion. This investigation was made with natural kraft paper alone. The water boiled off was replaced by a predetermined amount of water which was free from electrolytes. The test showed that the conductivity was exactly the same, both immediately after the heating to boiling point and after the boiling times indicated. It is not therefore possible to compensate for the time of digestion with an increase in boiling time.

Finally, in order to examine conditions on cold extraction according to Launer, the time for complete dissolution of the electrolytes from natural

[2]The following cleaning routine was adopted for all laboratory glass employed for these investigations:
1. Washing with bichromate-sulfuric acid
2. Rinsing three times with tap water
3. Rinsing three times with distilled water
4. Rinsing three times with alcohol
5. Rinsing three times with ether, puriss., anhydrous
6. Drying with *purified* compressed air.

Table I: Milligrams of NaCl per 100 ml. of solution

			0.5	*1.0*	*2.0*	*3.0*
f =	25	χ_{18} =	1.20×10^{-5}	2.19×10^{-5}	4.03×10^{-5}	5.96×10^{-5} Ohm/cm.
f =	50	χ_{18} =	1.19×10^{-5}	2.21×10^{-5}	4.07×10^{-5}	5.96×10^{-5} Ohm/cm.
f =	500	χ_{18} =	1.18×10^{-5}	2.22×10^{-5}	4.07×10^{-5}	5.96×10^{-5} Ohm/cm.
f =	1,000	χ_{18} =	1.18×10^{-5}	2.21×10^{-5}	4.07×10^{-5}	5.96×10^{-5} Ohm/cm.
f =	5,000	χ_{18} =	1.16×10^{-5}	2.18×10^{-5}	4.03×10^{-5}	5.96×10^{-5} Ohm/cm.
			4.0	*5.0*	*10.0*	
f =	25	χ_{18} =	7.83×10^{-5}	9.50×10^{-5}	1.86×10^{-4} Ohm/cm.	
f =	50	χ_{18} =	7.79×10^{-5}	9.53×10^{-5}	1.87×10^{-4} Ohm/cm.	
f =	500	χ_{18} =	7.75×10^{-5}	9.53×10^{-5}	1.89×10^{-4} Ohm/cm.	
f =	1,000	χ_{18} =	7.75×10^{-5}	9.52×10^{-5}	1.89×10^{-4} Ohm/cm.	
f =	5,000	χ_{18} =	7.74×10^{-5}	9.44×10^{-5}	1.88×10^{-4} Ohm/cm.	



Figs. 5, 6. Sketch of the thermostat (above) and the instrument in use (right). In the sketch, the thermostat proper (type Thermomix) is immersed in a primary water bath (I) which by tubes is connected with a secondary and completely closed bath (II) containing a smaller tertiary bath (III) within which the measuring vessel with cell is immersed.

kraft paper, 80 g./sq.m., and from PT 300 cellophane was determined, using redistilled water in an open vessel (with dust trap) to check the influence, if any, of the carbon dioxide of the air.

Fig. 2 shows that the specific conductivity of the check water was approximately constant during the 30 hrs. of the test. However, the conductivity of the paper extracts underwent a rapid increase during the first 4 to 6 hrs., whereafter a slow increase was observed during the latter half of the test.

After 20 hours of cold extraction the investigation showed the χ value of 6.74×10^{-5} Ohm/cm. as compared with 9.48×10^{-5} Ohm/cm. for heat extraction with 1 hr. of digestion. Both values are mean values of three determinations of good mutual agreement.

The investigation was then continued with a determination of the electrolyte content after 1 hr. of digestion at 30, 50, 70 and 90 deg. C., without preceding heating to boiling point.

Fig. 3 shows that the conductivity increases as the digestion temperature increases. At the highest temperature investigated (90 deg. C.), one obtains a value that corresponds to the one obtained after only 10 min. of digestion at 98 to 100 deg. C. after heating to boiling point.

The investigations made have thus shown that it is necessary to heat the extract to the boiling point, whereafter it is left to digest for about 1 hr. at 98 to 100 deg. C.

3. The influence upon the extraction water of the carbon dioxide content of the air. If distilled water prepared in accordance with the above is left standing in an open vessel (with dust trap), the specific conductivity faintly increases owing to the influence of the carbon dioxide in the air (Fig. 4).

From the diagram, it appears that the purer the water is from the beginning, the quicker will be the increase in conductivity.

In order to establish whether it is necessary to eliminate the carbon dioxide with an absorbent, the following experiment was made:

Natural kraft paper, 80 g./sq. m., was cut into pieces and placed 2 g. in each of two Erlenmeyer bottles, and 100 ml. of redistilled water with a specific conductivity of 2.17×10^{-6} Ohm/cm. were poured over the paper.

One bottle was covered with a watch glass only, while the other was provided with a calcium chloride tube containing a carbon dioxide absorbent (Ascarite, 8 to 20 mesh).

After the hot extraction the specific conductivity was then determined for the extract in each bottle. In the bottle *without* CO_2-absorption χ was 0.93×10^{-4} Ohm/cm.; in the bottle *with* CO_2-absorption χ was 1.0×10^{-4} Ohm/cm. The results are mean values of three determinations with good mutual agreement. The result indicates that it is quite sufficient to cover the bottles with a watch glass only, during the course of the analysis.

4. The temperature of the extract. The literature (10 and 11) states that the specific conductivity in-

Table II: Relationship of electrolyte content, pH and corrosion in some packaging materials

	pH	*Remarks*	$\chi_{18°} \times 10^{-4}$	*mg. NaCl 2 g.ppr*	*% NaCl*	*Remarks*
Duplex	4.50		1.54	0.5	0.025	
Kraft I	4.60		1.66	1.0	0.050	
Kraft II	4.70		1.62	0.7	0.035	
Kraft III	4.75		1.56	0.5	0.025	
Filter paper, tech.	4.60		1.62	0.7	0.035	
Greaseproof paper	4.40		1.69	1.5	0.075	
Greaseproof paper, wet strength	6.15	Maximum	1.66	1.0	0.050	
PT 300	4.00	Minimum	2.26	5.0	0.250	Poor
MST 400	5.00		1.54	0.5	0.025	
Pliofilm N_2 140	4.40		1.51	0.2	0.010	Best

creases about 2% for each degree of increased temperature. To obtain comparable results, either the measurements must therefore be carried out at a constant temperature, perferably 18 deg. C., or one must know the temperature coefficient. Wickert and Wiehr (11) have set this coefficient at 0.0225 for dilute NaCl solutions of between 15 and 25 deg. C.

An experiment was made to verify this result and here a thermostat, type Thermomix, was used which was connected as follows (Figs. 5 and 6): The thermostat proper was immersed in a primary water bath, which by means of connecting tubes was in communication with a secondary, completely closed bath which contained a smaller tertiary bath, within which the measuring vessel (capacity, 20 ml.) with the cell was immersed.

Before the beginning of the experiment the relationship of the time and the temperatures of the thermostat baths and the measuring cell was determined after the control member had been connected (Fig. 7). The thermostat was then set at 18.0 deg. C. The time was read when the temperature of the cell had reached this value.

If the measuring cell was immersed upon starting, it required about 35 min. before the cell had reached the measuring temperature. If the bath was first allowed to reach 18 deg., it took about 20 min. before reading could be made.

For the experiment a dilute solution of NaCl was used. The specific conductivity was determined at 15.0, 18.0 and 25.0 deg. C., which gave the following result:

15.0 deg. ..... 1.17×10^{-5}
18.0 deg. ..... 1.25×10^{-5}
25.0 deg. ..... 1.45×10^{-5}

The temperature coefficient can be determined by the formula:

$$\alpha = \frac{1}{\chi 18} \times \frac{\chi 2 - \chi 1}{t_2 - t_1}$$

If measured values are inserted in this formula, α will be = 0.0224. This value of the temperature coefficient must be considered identical with the one earlier stated.

This agreement at the same time furnishes proof of the reliability of the method of analysis.

Fig. 8 shows the relationship of temperature and

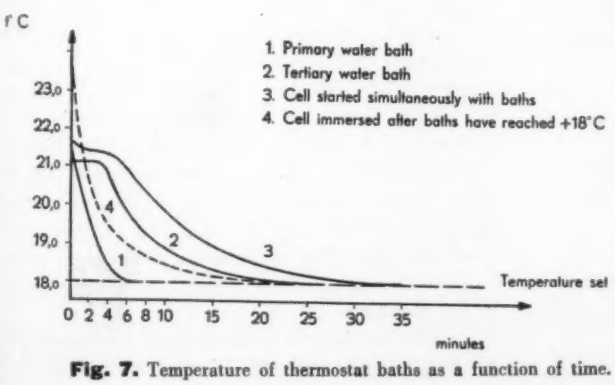


Fig. 7. Temperature of thermostat baths as a function of time.

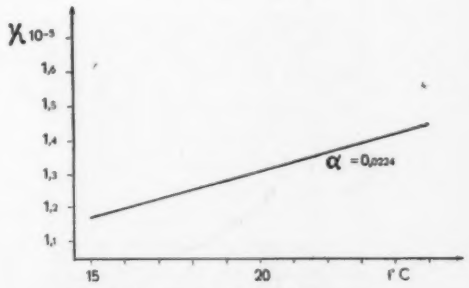


Fig. 8. Specific conductivity as a function of temperature.

Table III: Relationship of electrolyte content, pH and corrosion in some packaging materials

	Hours	*Rust*	*Remarks*	*Hours*	*Rust*	*Remarks*
Duplex	96	1		264	1–2	
Kraft I	96	1		264	1–2	See Fig. 8 D
Kraft II	96	1		264	1–2	
Kraft III	96	1		264	2	
Filter paper, tech.	96	1		264	1	
Greaseproof paper	96	2–3		264	3	See Fig. 8 B
Greaseproof paper, wet strength	96	2		264	1–2	See Fig. 8 A
PT 300	96	3		264	3–4	See Fig. 8 C
MST 400	96	1		264	1–2	
Pliofilm N_2 140	96	0–1	One stain only	264	0–1	

specific conductivity. It will be seen therefrom that the specific conductivity is approximately a linear function of temperatures of between 15 and 25 deg. C.

5. Frequency of current. It has been suggested that a conductometer must operate at a frequency of 1,000 cycles per second, since a lower frequency would produce polarization at the electrodes and thereby erroneous results.

To check this, the conductometer was supplied with a current, the frequency of which was controlled by an audio-frequency generator of Philips make (GM 2305 A), whereupon the specific conductivity was determined at frequencies varying between 25 and 5,000 cycles per second at concentrations lying between 0.5 and 10.0 mg. of NaCl per litre of solution.

The result appears in Table I.

The measurements were made at 18.0 deg. C. Each value is a mean value of three measurements of good mutual agreement. It appears from the table that no appreciable difference is obtained at the various frequencies. The variations occurring are of such an order as to fall within the limits of error of the analysis.

It also appears from the experiment that no polarization occurs at a frequency of 50 cycles per second. It therefore fully suffices to work at this frequency.

6. Concentration of the suspension. In the experiments described above, the concentration of the suspension amounted to 2%.

To establish whether there possibly is any optimum concentration, an experiment was made in which the specific conductivity was determined of natural kraft paper 80 g./sq. m. and of filter paper Type OB of Munktell's make, at concentrations varying from 0.5 to 4.0%.

Fig. 9 shows the relation of suspension concentration and specific conductivity which is here converted into per cent of NaCl.

It will be seen from the diagram that a higher relative value is obtained for the electrolyte content at suspension concentrations lower than 2% regarding natural kraft and lower than 3% regarding filter paper. This seems due to the fact that the paper, which is a very good ion exchanger, adsorbs electrolytes on the surface. At suspension quantities of more than 2.0 to 2.5%, a saturation has set in, so that constant values are obtained. At suspension quantities of less than 2.0 to 2.5%, on the other hand, the paper begins to discharge the electrolytes adsorbed on the surface, a higher percentage value being obtained.

For performing the analysis under routine conditions, practically any convenient concentration may

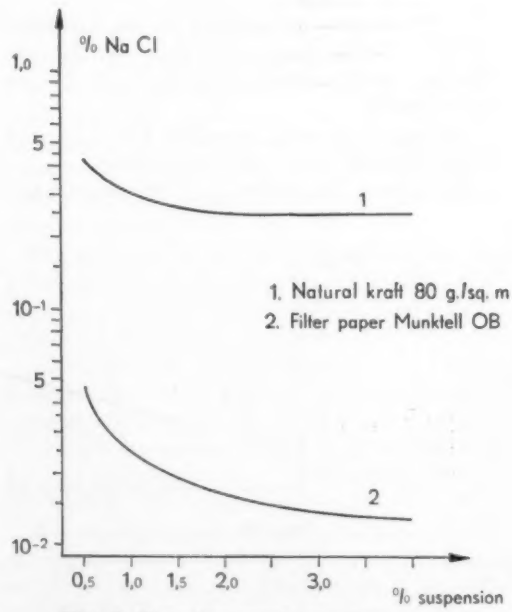


Fig. 9. Electrolyte content as a function of suspension concentration.

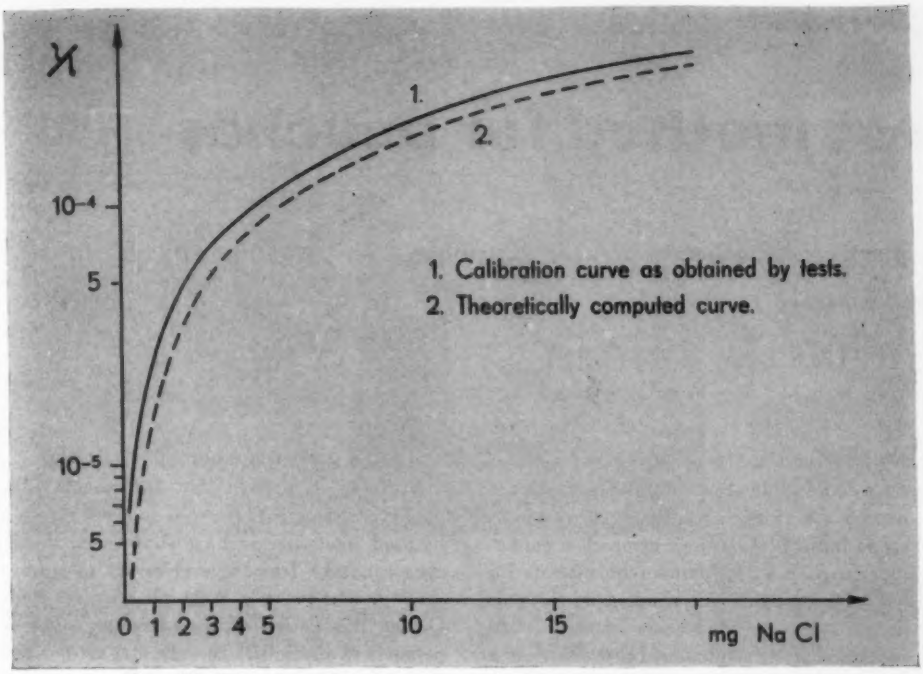


Fig. 10. The relationship of specific conductivity and electrolyte content, expressed as the NaCl content.

be employed, but to avoid the adsorption effect, a concentration of about 2% or more should be chosen. Again, too high a concentration is inconvenient, since it has an unfavorable effect on the measuring operations and, for this reason, we have chosen 2% for routine analyses.

Calibration and checking

When making routine analyses, it is useful to have a calibration curve already drafted, by means of which it is possible to read direct from the χ value of the measurement the NaCl content, which is usually indicated as a measure of the electrolyte content (thus all electrolytes are indicated as NaCl).

A calibration curve was therefore drafted in the following way (Fig. 10, Curve 1): First a standard NaCl solution was prepared in such a way that NaCl c.p. was dried for 48 hrs. at 105 deg. C., whereupon 1.0000 g. was dissolved in 1,000.0 ml. of double-distilled water. In this way a solution was obtained where 1.00 ml = 1.00 mg. of NaCl.

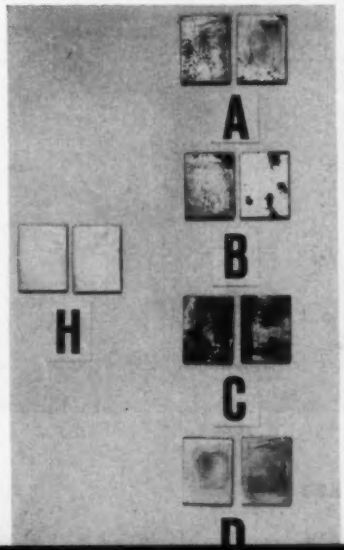
The specific conductivity was then determined at the following concentrations: 0.2, 0.4, 0.6, 0.8, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0, 10.0, 15.0 and 20.0 mg. of NaCl per 100 ml. For each point, three determinations were made of very good mutual agreement.

To fulfil the conditions at a hot extraction, the NaCl solutions were treated in the same way as in an extraction according to (6) and the measurements were made at 18.0 deg. C.

To investigate the reliability of the method of analysis and simultaneously to check the calibration

[*Continued on page 224*]

Fig. 11. Photograph of steel plates used in the corrosion test. H is the uncorroded control.



*By Robert F. Dale**

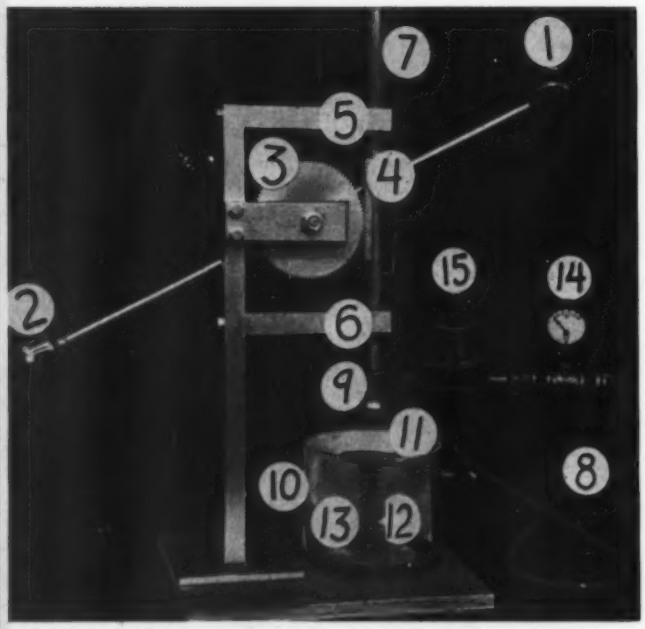
Test method for pouches

New procedures for the determination of tightness of flexible packages are based on six years of production experience

The flexible pouch has been replacing cans and ampoules in many applications because of its ease of formation and lack of fragility. The trend to pouches for packaged individual servings demands a continually wider range of performance requirements for these containers. And the lack of adequate methods for testing performance has become apparent. One of the most urgently needed control procedures is a fast, accurate method of determining the tightness of the flexible pouches as they are mass produced.

Dehydrated cream, dehydrated potatoes, cheese, nuts and active dry yeast are now being packed in flexible pouches because they are capable of maintaining an oxygen-free atmosphere about these products. It is imperative that the pouch offer this protection if normal merchandising methods are to be used. Test surveys have shown that these packages can take from several weeks to upwards of three or four years to reach the ultimate consumer. During this period of time any small leak in the pouch will diminish the advantages of protective packaging. Therefore it is essential for the packager to know that leaks are not occurring. However, if through some misadjustment or machine failure the pouches do leak, the packager must be able to detect its presence so that corrective measures can be applied. The experience gained during the last six years of production, while packaging active dry yeast under nitrogen, has justified these views and has proved the advantages of Red Star Yeast & Products Co.'s destructive testing procedure.

*Director, Research Engineering, Red Star Yeast & Products Co., Milwaukee, Wis.



1. Assembled leak tester showing (1) operating handle to raise and lower rod, (2) counter balance, (3) geared wheel which activates test rod, (4) matching gear rack on test rod, (5, 6) bearings for test rod, (7) test rod, (8) hose connecting test rod to compressed-air supply, (9) housing to hold rubber seal and hypodermic needle, (10) water reservoir, (11) platform to hold test pouch. (12) bearing to support platform, (13) compression spring to return platform to rest position, (14) pressure gauge on air-supply line and (15) air-pressure regulator.

Test equipment

Basically the test consists of inflating the pouch with compressed air at a known, uniform pressure and submerging the pouch under water. Any leaks which are present will show in the form of reoccurring bubbles at the point of pouch failure. The equipment for this test is very simple in construc-

NEW PACKAGES WIN 20% SALES INCREASE

BOST BAKERY'S Change to Olin Cellophane Overwrapped Trays Proves Key to Reduced Costs, too

To give their sandwich and wiener rolls the standout eye appeal that captures more impulse sales, the Bost Bakery of Shelby, North Carolina, changed to colorfully printed trays overwrapped in sparkling Olin Cellophane. Yellow and red colors are used for the two items, with a reverse color arrangement to distinguish one product from another. This use of color makes it easy for route men and consumers alike to distinguish the products instantly. The brilliant transparency of the Olin Cellophane wrap displays both products at their appetite-tempting best in their Olin Cellophane-designed trays.

The ready acceptance of the package by both retailers and consumers has enabled Bost to open new distribution areas. Thanks to the excellent stacking qualities of the packages, shelves can be stocked quickly and effectively, and because of the added protection afforded by the tray, the packages resist crushing on the shelves. The net result has been a 20% increase in sales with a 3% reduction in the firm's costs.

For you, too, a packaging change can mean new sales, new distribution, new savings. For a free Tra-Pak to aid you in selecting the tray type most suitable for your product, write to Olin Film Division, 655 Madison Avenue, New York 21, New York. Or write for the name of a nearby converter of Olin Cellophane.

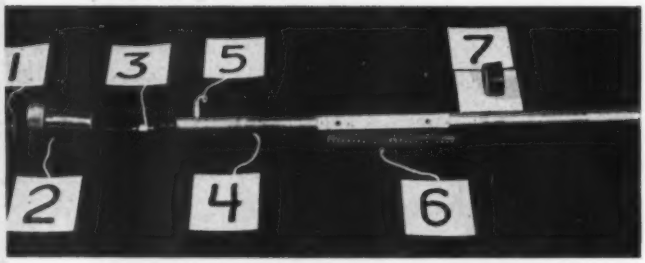
SEE OLIN CELLOPHANE TRA-PAK

The 8 sample trays in this special kit will help you develop the type of tray design which will best help your product meet today's self-service requirements for cookies, cakes, rolls and other products.

Olin CELLOPHANE ®

A Packaging Decision Can Change the Course of a Business

OLIN MATHIESON CHEMICAL CORPORATION



2. Exploded view of test rod with parts identified: (1) rubber seal, (2) housing for rubber seal and hypodermic needle, (3) No. 18 hypodermic needle, (4) test rod, (5) hose connection to supply compressed air to hypodermic needle, (6) gear rack on test rod, (7) rubber stop.

tion (see Figs. 1 and 2). Two methods of operation are used with this test equipment.

Method A: If the pouch is small in size (i.e. less than 4 by 4 in.) and the inner sealing material is strong, the pouch can be placed directly on the platform. The test rod is lowered until the hypodermic needle punctures the top surface of the pouch and inflates the pouch. Continued pressure on the test rod will submerge the pouch and seal it against the rubber seal of the test rod, thus insuring uniform operating conditions for each test. Standard air pressure for Red Star's test is 3 to 4 p.s.i.g.

Method B: All large pouches, greater than 4 by 4 in., or pouches which have relatively weak sealing materials must be restricted before inflation. The restricter consists of two metal plates, slightly smaller than the unsealed area of the pouch. The plates are held together at a predetermined distance with four or six U-shaped rods. The center portion of one plate is also cut out to permit the insertion of the test-rod tip (see Fig. 3).

The test pouch is inserted in the restricter and both units are then placed on the platform. All subsequent operations are similar to those described under Method A.

Test results

The results of this test have been cross-checked by gas analysis of the interior pouch atmosphere several thousand times during the past six years of operation. Excellent correlation exists between the leaky pouches detected by oxygen analysis and leaky pouches detected by the internal pressure test. Table I lists several examples of pouches tested by both methods (gas analysis first, followed by internal pressure test).

Several precautions must be observed if the information obtained from the internal pressure method is to be of value. First, the pressure used to test for a leak must be uniform and adequate to force gas through very fine capillaries in the seal,

Table I: Cross comparison between gas-analysis method and internal-pressure leak test

Pouch No.	*% oxygen*	*Result of internal pressure test*
1	0.0	No leak
2	11.0	Leak in side seal
3	17.9	Leak in top seal
4	19.2	Two leaks in seals
5	0.4	No leaks
6	18.3	Leak in side seal

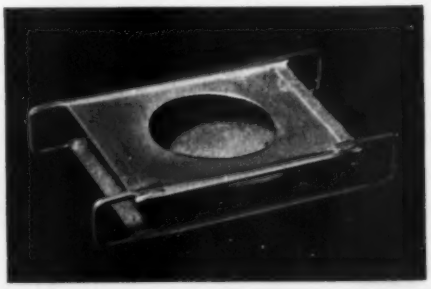
Table II: Relation between test chamber vacuum and internal pouch pressure
(All pouches 2⅝ by 2¾ by ⅛ in.)

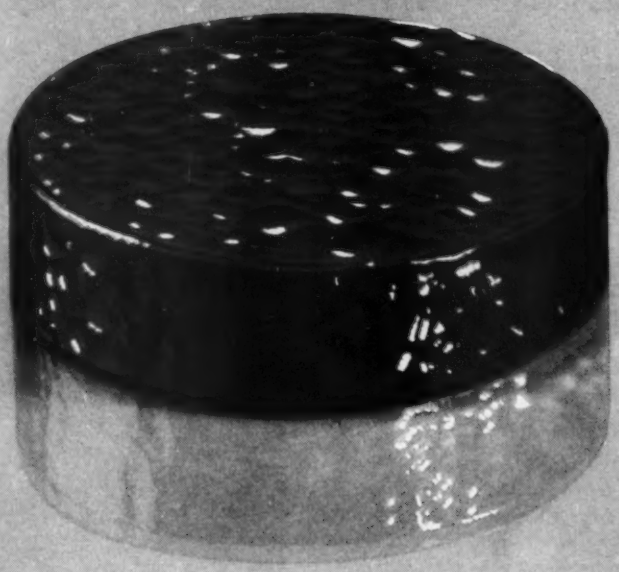
Pouch No. and type of restriction	*Vacuum in chamber (in. of mercury vacuum)*	*Inches of mercury pressure differential between interior of pouch and surrounding atmosphere*
1. Unrestricted	3.0	Negligible
Unrestricted	5.5	Negligible
Unrestricted	7.8	0.13 in.
2. Unrestricted	7.5	0.15 in.
3. ¼ in. restriction	2.8	Negligible
¼ in. restriction	5.5	Negligible
¼ in. restriction	7.7	0.28 in.
4. ⅛ in. restriction*	2.7	Negligible
⅛ in. restriction	5.5	1.1 in.
⅛ in. restriction	8.1	2.8 in.
5. ⅛ in. restriction	7.5	3.0 in.

*This restriction is too tight to be practical for a control test.

usually 3 to 4 p.s.i.g. for Pliofilm seals. The pressure must not be high enough, however, to cause pouch-seal ruptures. Second, the inspection time must be adequate to permit the detection of very small leaks. Normally the microscopic leaks can be detected in less than 15 sec., while larger leaks are [*Continued on page 240*]

3. Restrictor for 3½-by-4¾-by-½-in. pouch consists of two metal plates slightly smaller than unsealed area of pouch, held by U-shaped rods. One plate is cut for inserting test-rod tip.





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Durable, moistureproof wrap

Q. *Can we improve the durability of and also add moistureproofness to a varnished, printed overwrap for a small carton? Our present wrapper is spirit varnished, which gives an excellent appearance, but is so easily scratched and scuffed. We are considering the use of a lacquer coating and wonder if such coatings could give some moistureproofness to the package. Your advice and suggestions on this question will certainly be very much appreciated.*

A. There are many paper coating lacquers on the market that will give a wide range of both surface gloss and moistureproofness combined with excellent durability. Lacquer coatings in general cost more than a press or spirit varnish, particularly when coating weights must be raised to give effective levels of moistureproofness.

It is suggested that you contact several lacquer manufacturers or companies which specialize in the custom coating of labels and wrappers. You can obtain a number of different lacquers on your printed labels for evaluation of their moistureproofness, durability and surface characteristics.

Some types of printing inks present problems in developing good adhesion between the lacquer coating and the ink, but if your printer is aware that you intend to use moistureproof lacquers, he can supply you with satisfactory inks and printed surfaces free of offset spray residues.

You should also consider the problem of applying a lacquered label on your wrapping machines. Some lacquer coatings can be heat sealed, but this technique is not recommended for carton overwrappers. A lacquer coating will require special adhesives to make rapid and strong end seals. The long seal can be made by aqueous adhesives if a dry or unlacquered strip is left along the label edge.

However, there are many adhesive formulations that will work effectively to seal lacquer-coated paper of many types.

Stiff, wrinklefree board

Q. *How can we improve the stiffness and reduce the wrinkling of paperboard which we use to interleave sections of a damp product? Presently we are using a square piece of waxed bleached kraft board to separate portions of a formed but rather damp uncooked bakery product. The waxed board becomes soft in a few days and wrinkles badly along the edges.*

A. The inclusion of paperboard between layers of a damp product for long periods will result in softening of the board regardless of waxing or similar coating. The paperboard can be a high wet-strength type, which will retain some of its strength even if saturated with moisture. However, this wet-strength board will also show some softening and distortion.

You should try samples of paperboard that have been built up from two plies by a laminating agent of a resin such as styrene. This resin will add stiffness to the paper and will give a maximum of dimensional stability which will reduce edge wrinkling. The styrene will be unaffected by the high moisture content and if a sufficient amount is used, the resulting paperboard will be very stiff and stable. This laminated board can be lightly surface waxed to prevent the paper from adhering to the product. Styrene is free of odor and taste. It is also colorless, non-bleeding and heat stable for normal temperatures.

You should also try a similar laminated paperboard with polyethylene resin as the laminating agent. This resin will give dimensional stability and other desirable properties, but the board will not be as stiff as that which has been made with the styrene resin.

Uniformity of laminated board

Q. *One of our folding cartons uses a laminated board made from greaseproof paper with a wax-type adhesive. We use this package for a product that needs moisture protection, but we are not sure if this board is uniform and protective enough for this use. Can you give us a value of the moistureproofness and also a general specification for its construction?*

A. Laminated folding carton paperboard made by laminating board and greaseproof paper with a flexible wax is an excellent moisture barrier. The uniformity and moistureproofness are functions of the amount and continuity of the waxy laminant. This board should be made by applying the wax to the greaseproof paper at the lowest temperature to obtain adhesion and good metering. The paperboard is then combined with firm pressure and no heat. Actually, it may be necessary to use a cooled combining roll on one side, with a rubber roll on the other side. The wax should be a tacky grade that does not carry rosin or similar tackifier. The weight of wax should be not less than 10 lbs. per ream of 3,000 sq. ft. Using this specification and method of manufacture, the laminated board should have a water-vapor transmission value by the TAPPI (Technical Assn. of the Pulp & Paper Industry) method at 100 deg. F. and high humidity of about ½ gm. per 100 sq. in. per day. This is a good level of moistureproofness, but such a board must be used as a well-sealed folding carton, or you will not benefit from its moisture resistance.

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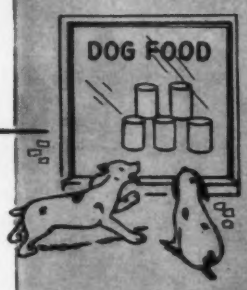

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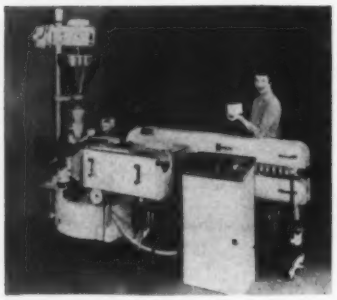
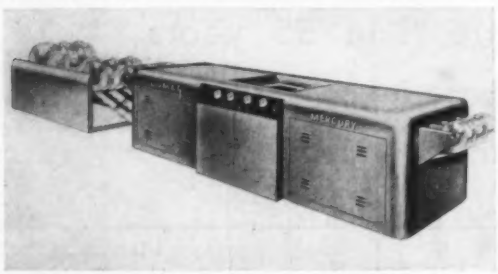
Equipment and materials

A new system of automatic packaging introduced at the Packaging Show by The Gardner Board & Carton Co., Middletown, Ohio, is known as the Hermetet system. Developed by Esselte Forpackning, ab., Norrkoping, Sweden, and the Paper Goods Mfg. Co., Sutton, Surrey, England, its licensing rights in this country have been secured by Gardner, who may license other carton manufacturers to use the system. Components of the Hermetet system produce a carton with a heat-sealed inner liner that reportedly can be air-, sift-, moisture-, odor-, and grease-proof, depending on the type of liner used. The liners are not of the "bag-in-a-box" variety, but are integral parts of the cartons themselves, glued to the carton walls so that they will not collapse in normal filling. The lined cartons are heat sealed on a Hermic X packaging machine (illustrated), which handles cartons ranging in size from 2 by 1⅛ by 3⅜16 in. to 3¾ by 2⅜16 by 6⅜16, with size changes said to be possible in from 15 to 50 min. Liners may be chosen from a wide range of papers, films and laminations, and are heat sealed on sides as well as ends to give all-over protection to the contents, with the end seals being made as part of the end seals of the outside paperboard carton. The cartons may be reclosed by the user after they have been once opened. Hermetet cartons are to be made by Gardner and shipped to a machine owner's plant lined and ready for filling. They are said to be particularly adapted to all products needing extra protection, such as dehydrated and powdered foods, mixes, cereals, chemicals, foods with high grease content, liquids, etc.



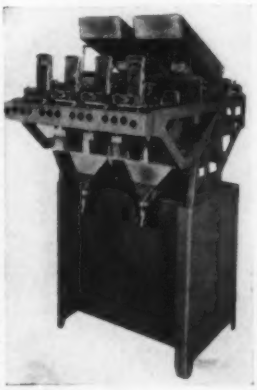
A continuous contour packaging machine which automatically laminates two sheets of clear plastic fed from rolls has been announced by Comet Industries, Franklin Park, Ill. The machine automatically inserts the product being packaged, heat seals, prints and either trims individual packages or rewinds the roll of packages in a continuous ribbon. Known as the Mercury, the machine occupies a floor area of 3 by 8 ft. and is 44 in. high. It can handle rolls with a width up to 14 in., or can fabricate multiple strips simultaneously.



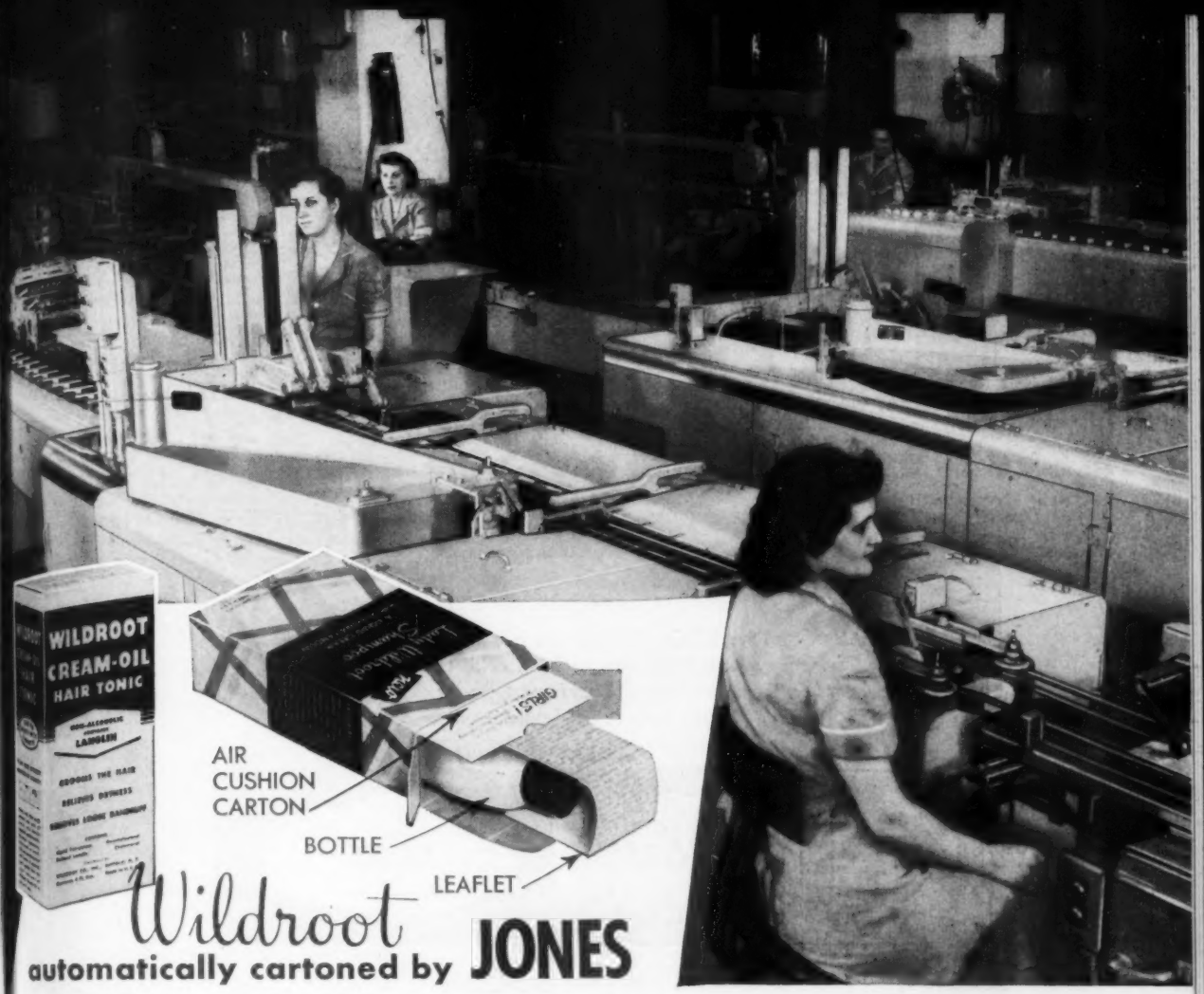
Two new polyethylene resins have been announced by E. I. du Pont de Nemours & Co., Inc., Poly-Chemicals Dept., Wilmington 98, Del. Alathon 34 resin, designed specifically for film and bottles, and Alathon 37, intended for general-purpose molding, are said to display a level of crystallinity beyond that available in any present commercial resin. Other reported properties for Alathon 34 are increased clarity, stiffness, sparkle and impermeability. It is expected to be particularly useful in soft-goods packaging and as a coating for paper foil and other substrates. For use in bottles and containers, it is said to have stiffness plus resistance to heat distortion. Alathon 37 is a high-flow polyethylene reported to have fast cycle, high gloss and stiffness that make it particulary useful in housewares molding. Both are priced at 43 cents a pound in truckload quantities.

An automatic air-operated baling machine for packing small units into semi-rigid containers and multiwall baler bags has been announced by St. Regis Paper Co., 230 Park Ave., New York 17. It is an adaptation of a machine originally developed by St. Regis for loading family-sized units of such commodities as flour and cornmeal into semi-rigid containers. The operator places an open-end container on duck bills and then stacks in bale pattern the required number of smaller packages in the baler magazine. A compression plate then squeezes the small bags against an opposite stationary plate, shaping the bags to the correct width for easy insertion into the container. As the duck bills open, a piston rod pushes the bags into the container. The new machine is said to feature easy adjustments for different package sizes, easy maintenance and modern, functional design. Model No. 251-B is designed to fill semi-rigid containers and multiwall bags; No. 261-B handles end-opening cartons.

Automatic net-weight scale units are now available from Hayssen Mfg. Co., Sheboygan, Wis., in two-, three-, four-, five- and six-scale units. They feature a new triple-vibrator feed device to give even distribution of products from feed to scale. A feed trough maintains an even supply of the product to the bulk and dribble troughs, controlled by a balance chute. The flow in the bulk trough is stopped just short of exact weight by scale contacts and the flow through the dribble is continued to equal the exact weight desired. Micrometer-like settings are graduated in 1/64-oz. increments, giving a reported tolerance of 1/64 oz. for small products and one piece plus for larger items.



Four new polystyrene formulations have been introduced by Dow Chemical Co., Midland, Mich. Two are new high-impact materials: Styron 440 reportedly adds high heat resistance to high-impact strength, excellent



Wildroot automatically cartoned by JONES

To satisfy the steadily increasing demand for Wildroot products, three Jones Fully Automatic Cartoners were selected for Wildroot's high speed lines. Each cartoner handles six sizes of bottles and cartons, plus leaflet, at speeds up to 160 per minute. Wide range and flexibility provide the invaluable assurance that new sizes and new products can be added at any time.

High speed and ready convertibility from size to size are assured by these features:

1. Two star wheels—separator and feeder—gradually transfer the bottles to the individual conveyor carriers without the "clash-bang" of a single star or straight pusher. The transfer is positive, without dependence on the driving power of the plate chain conveyor. Both "finger grip" and "violin shape" bottles are handled interchangeably at high speeds.

2. Jones' standard carton feeding and opening mechanism, unparalleled in its positive action, handles the air-cushion carton, with inner cradle and 4 end flaps, as efficiently as conventional carton.

3. Quickly adjustable, 3-chain carton and bottle carriers. For any width of bottle and carton within the generous range of 1½ to 8 oz., the adjustment is made simply by advancing or retarding a central sprocket. This eliminates the tedious changeover task of adjusting each carrier, or applying inserts.

4. Fully adjustable closing and tucking units have positive locations for different sizes.

5. Leaflet folder fully adjustable to feed flat leaflets, 4" x 4" up to 10" x 10". Folds 2 or 3 times, centrally or off-center, permitting use of one size of flat leaflet for loads varying widely in width.

These features and many others have prompted a majority of successful, cost-conscious manufacturers to select the Jones Constant Motion Cartoner. They know that only the *finest cartoning machine* will give them the *lowest cartoning cost.*

R. A. JONES & COMPANY, INC.

Cartoning Machines — Semi-Presses

P. O. BOX 485, CINCINNATI, OHIO

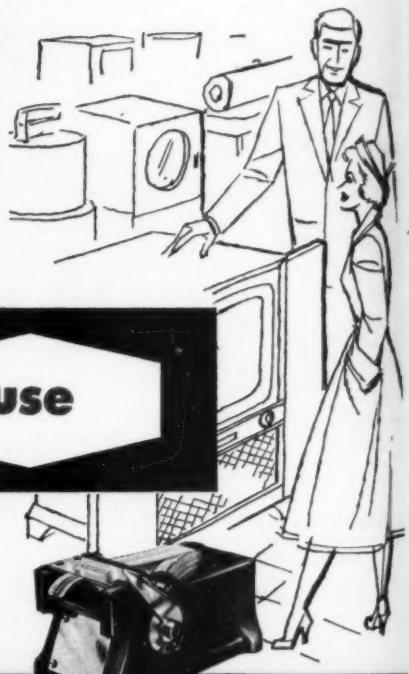
• your production men

Production lines keep rolling — no delays for lengthy label preparation, spoilage, or poor adhesion. Labels go on fast . . . clean . . . easy — no water, no glue, no heat, no mess!

everybody's happy . . .

• your dealers

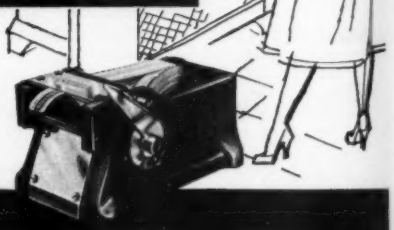
Pressure-sensitive labels *stick tight* on any hard, smooth surface. Regardless of heat, cold, or humidity, they identify your brand . . . tell your product story . . . help make sales.



when you use

• your customers

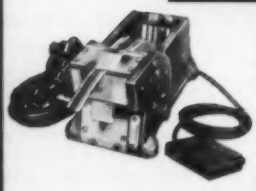
Buyers like these peel-off labels that won't "pop" or pucker . . . yet remove easily without soaking or scraping.



Special Roll Label Dispensers save time and money in every volume labeling application.

ROLL DISPENSED

Pressure-Sensitive LABELS



WRITE TODAY for FREE TEST-IT-YOURSELF KIT

Contains a selection of pressure-sensitive samples for on-the-spot testing in your own plant.

Your own Roll Label Printer is a *specialist* who can design and produce roll-dispensed pressure-sensitive labels that sell on *your* product or package. Any size . . . any shape . . . on almost any stock. Consult him on any of your labeling problems. He will be happy to cooperate.

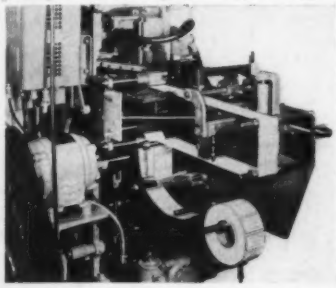
KLEEN-STIK PRODUCTS, INC.

7300 West Wilson Avenue • Chicago 31, Illinois

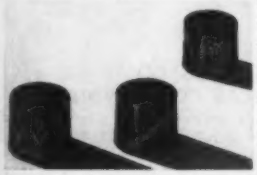
Pioneers in Pressure Sensitives for Advertising and Labeling

surface finish and good moldability, retaining high-impact properties with heat distortion over 200 deg. F.; Styron 429 is said to give greatly improved surface finish and gloss to sheet products, with increased flexural strength that makes it usable for economical vacuum forming. Styron 665, a general-purpose polystyrene, is tailored for the extrusion process, reportedly having greater resistance to shattering when cut off to desired lengths. Styron 689 is designed for molding thin sections, deep draws and parts demanding accurate dimensional control, especially high-speed automatic molding operations, and for large-area parts.

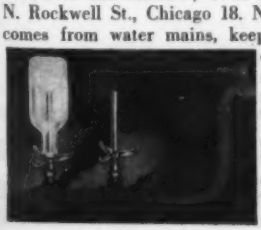
An automatic pressure-sensitive labeler introduced by New Jersey Machine Corp., 1500 Willow Ave., Hoboken, N. J., is designed for use on the many types of packages which employ easily removable labels. Labels of this type are usually supplied affixed to a continuous web of glassine backing. In the new machine, the labels are roll fed past an electric eye which halts the motion of the roll momentarily as each label comes into position. Vacuum then picks the label from the backing paper and feeds it to the applying head of a New Jersey Pony Labelrite. Speeds up to 60 labels per minute are said to be possible. Among the many products for which labels of this type may be useful are foods packed in glass or plastic jars; decorative or expensive looking gift-type packages of candy, liquor, etc.; articles such as clothing, for which prices are subject to changes, and pharmaceuticals, for which absolute protection against mislabeling is necessary.



A new molding process for plastic caps announced by Armstrong Cork Co., Lancaster, Pa., is said to make feasible the use of debossed designs which were not previously possible because of technical difficulties. A new cavity-making concept, using an electroplating process has been developed, with the caps being made by pouring plastic in powder form into a metal mold, applying heat to convert the powder into a thermosetting plastic cap, then ejecting them from the mold by a newly devised technique. Designs such as names, trademarks, figures and simulated wood or leather patterns are said to be practical.



Two rinsing spouts for hand washing bottles have been announced by U. S. Bottlers Machinery Co., 4015 N. Rockwell St., Chicago 18. Normal water pressure, as it comes from water mains, keeps the valves closed, to be opened automatically the instant an inverted container lowers a bottle rest. This releases a forceful gusher of fresh water into the bottle to give it a thorough rinsing before filling. Type A spout is designed for containers holding less



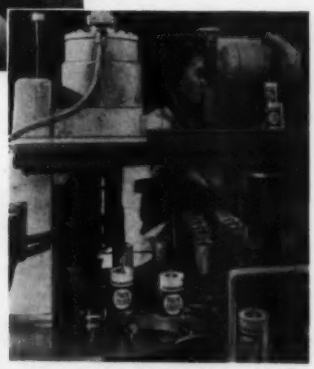
PRESSURE LOADING WITH Pres-O

"MECHANIZING the AEROSOL"

is the title of an interesting and informative article which appeared in MODERN PACKAGING for January '56.

The PRODUCT

is favorably known the world over.



The PACKAGE LOADING

at speeds up to 120 per minute, is by the Pres-O Combination Automatic Feeder, Crimper and Propellent Filler. This Pres-O machine *utilizes all the propellent* and operates without need of refrigeration.

Pres-O engineers can solve your aerosol loading problem. Pres-O Filling Equipment will give you speed, accuracy, maintained efficiency and all around economy in a degree not excelled by any other equipment . . . *at any price.*

Pres-O* AEROSOL *Valves

serve in dispensing many of the world's best known pressurized packaged products — foam and liquid. We have or can design the valve you need to help make *your* products preferred.

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FOLDING CARTONS
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SOLID FIBRE BOXES
SPECIALTY PAPERBOARDS
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when you have
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filling machines with
FLEXIBILITY

Straightline filling machinery that specializes in every job. Simple adjustments—interchangeable nozzles—give unlimited adaptability, highest efficiency. Servicing and adjustments can be done by unskilled operators . . . and you save.

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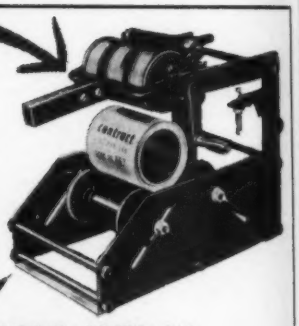

CUT IMPRINTING COSTS ON CYLINDRICAL CONTAINERS

Do away with clumsy, awkward, ink-smeared hand stenciling and other crude methods of can imprinting. Unskilled workers using manually-operated **Murco "Midget"** will increase your hourly production manyfold and Murco's simplicity means little or no maintenance costs. Any round container in metal, paper, fiber, etc. (up to One Gallon) can be efficiently imprinted. Machines now in use have successfully passed military inspection and Packaging Requirements.

USES ORDINARY RUBBER DIES— EASILY CHANGED

Rubber-stamp dies for Murco "Midget" are readily obtainable from any rubber-stamp company and they can be easily changed for a new job by anyone in only a few seconds. Roll out savings on your imprinting costs with **Murco "Midget"** by writing today for further information. Distributors are invited.

MURCO
R. R. #1, Box 5W, Delray Beach, Florida

than a quart, Type B for larger bottles, jars or jugs. A series of the rinser spouts may be connected to a single pipe mounting for multiple-bottle rinsing.

A new hardware packeting machine

designed for high-speed, low-cost operation has been announced by the Brown Bag-Filling Machine Co., Inc., Fitchburg, Mass. At one station, the new Formapak unit forms, fills and heat seals packets ranging in size from 2 by 2½ in. up to 4½ by 5 in. at speeds up to 100 per minute, according to the manufacturer. The packet is formed from a single roll of heat-sealable material. Such products as screws, nails, nuts, washers or other small items are filled by predetermined count. The machine's Vibracount feeder is reportedly adjustable in minutes for different products and counts. Change of packet size is accomplished without spare parts. The compact machine takes up only 3 by 3 ft. of floor space and its simplified engineering keeps maintenance costs at a minimum. A Brown-designed printing device is available for coding the packets.

Polyethylene lay-flat tubing

in widths from 3 to 5 in. is announced by M. R. Gerow & Associates, Caldwell Township, N. J. Produced under a new patented method of extrusion, the films are said to exhibit excellent slip and clarity. Only untreated films are presently available.

A new polyethylene bag filler and sealer

that operates at a speed of 30 bags per min. on 1-lb. sizes and at 20 per min. on 5-lb. sizes has been announced by the Niagara Packaging Machinery Corp., Depew, N. Y. This Model 600 machine will take any width bag ranging from 2 to 8¾ in. Change-over from one size to another reportedly requires only from 5 to 10 min. Only one operator is required to place the bags on the funnel of a revolving turret, after which the entire operation is automatic. After that, an operator packs the finished packages into shipping containers. The machine, which requires only 40 by 60 in. of floor space, is designed primarily for polyethylene, but with special heat-sealing devices may be used for heat-sealable materials.

Two new lines of label papers

called On the Level Davac Adhesive Label Papers and On the Level Metallic Papers have been announced by the Nashua Corp., Nashua, N. H. The Davac adhesive papers are said to possess balanced moisture for expansion and contraction at equal rates to prevent curl and the ability

PAR-PAK BAGS ARE TOUGHER!
Made from only the best films available, to avoid rupturing. PAR-PAK bags will withstand any normal strength test.

PAR-PAK BAGS ARE SEALED TIGHT!
We take extra time and use special effort to produce bags with siftproof and leakproof seals. They're *really* sealed!

PAR-PAK GUARANTEES THICKNESS!
There's no sacrificing of thickness-for-cost at PAR-PAK! Thicknesses are guaranteed, within standard tolerances.

PRINTED OR PLAIN—TRANSPARENT
PAR-PAK supplies plain bags or printed, in any design, up to 4 colors. Crystal clear, water clear or normal transparency.

PAR-PAK SERVICE IS TOPS!
Many sizes in stock for immediate delivery. Size range—1" to 40" wide, 1½" to 96" long, .00125" to .006" thick.

WRITE OR PHONE PAR-PAK FOR ADDITIONAL INFORMATION ON POLYETHYLENE LINERS FOR DRUMS, BARRELS, CARTONS, ETC.

PAR-PAK CO., INC.
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Pack, Inspect and Assemble
with ISLAND UNITIZED CONVEYOR TABLES
SPEEDS UP PRODUCTION

An all-purpose portable belt conveyor, work table and straight-line production system, with and without side leaves. Available up to 100 ft. long in 10 ft. easily assembled sections.

PORTABLE OR STATIONARY

The perfect mechanized table for assembly, inspection and packaging operations. Available in steel or stainless steel with fixed or variable speed.

See it at the M. H. I. Show!
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Please send Bulletin 1P-1 on Island Unitized Conveyor Tables.
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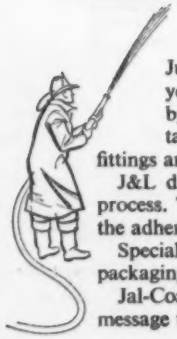
PROTECTION is our business, too



Just as valiant firemen are on around-the-clock alert to protect your life and property—J&L Steel Containers protect your products by providing dependable packaging that assures safety in transportation and storage. Their precise fabrication assures accuracy in all fittings and closures.

J&L drums and pails are chemically cleaned and dried by the JaLizing process. This assures a clean and dry, rust-inhibiting surface and increases the adherence and durability of decoration and interior lining.

Special protective interior linings are available to provide the best possible packaging for your products.

Jal-Coat, J&L's lithographing process, applies your trademark and sales message to the finished container . . . *no side seam touch-up is ever required.*

Plants located at Atlanta, Ga.; Bayonne, N. J.; Cleveland, Ohio; Kansas City, Kansas; Lancaster, Pa.; New Orleans, La.; Philadelphia, Pa.; Port Arthur, Texas; and Toledo, Ohio.

Jal-Coat, J&L's exclusive lithographing process, adds sales appeal to your products.

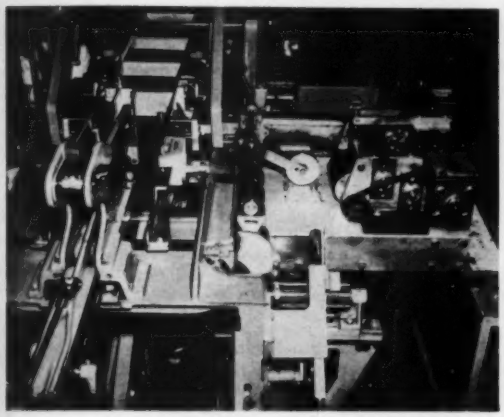
J&L STEEL

Jones & Laughlin
STEEL CORPORATION-PITTSBURGH

CONTAINER DIVISION
405 LEXINGTON AVE., NEW YORK 17, N.Y.

to stay flat under a wide range of atmospheric conditions. They have a smooth surface and are stocked in English Finish, Litho, Supercalendered and Kromekote, 20 by 25. The metallic papers are especially treated to remain flat over a wide humidity range of from 10 to 65% R. H. Under conditions of even higher humidity, the manufacturer claims, these metallic papers will stay flatter than most such papers. They come in platinum and gold, and are said to have an unusually receptive surface for solids, lines and screens.

Marking attachment for bundling machines introduced by Industrial Marking Equipment Co., 454 Baltic St., Brooklyn 17, is said to be equally effective in marking, dating and coding on all standard automatic bundlers. Speed is synchronized with that of the production line, with



imprinting being accomplished by the flexographic process, using interchangeable rubber type that is inked from a self-contained vertical reservoir. The large top area of a bundle can be imprinted with one message while contents identification is being imprinted on the ends.

Two checking devices for aerosol cans announced by Federal Products Corp., 1144 Eddy St., Providence 1, R. I., measure to see that crimp grooves are in correct position. When a pressure-valve seal is pressed onto

a can, it must extend a certain distance into the can to prevent pressure leaks. One of the new gauges determines whether the pressure seal is properly seated by measuring the location of the external groove of the seal. A second gauge checks to discover whether the seal is tight around the edges by measuring the diameter of the groove. The gauge for measuring groove location rests on top of the can, with a hook-like contact that fits into the groove. The groove location is read from a dial indicator. Diameters are measured on a special caliper gauge with a thumb lever and two arms. Measurements on this device are read on a dial.

A combination aluminum-polyethylene package developed by Arvey Corp., 3500 N. Kimball Ave., Chicago 18, uses a rigid foil body by Ekco-Alcoa Containers, Inc., River Grove, Ill., and transparent Polyflex lid by Plax Corp., West Hartford, Conn. The covers offer high thin-

Give Your Product a Sales "Assist" with Distinctive—

MACK CLOSURES

Mack Standard Molded Closures...

Molded plastic closures in all stock sizes are available for fast delivery from regular stocks in reasonable quantities. A wide selection of decorative designs assure a "custom look" at the cost of an economical standard seal.

Custom Packaging of Distinction...

Call on Mack packaging technicians for new ideas in special packaging. Custom packaging by Mack has given a "sales assist" to countless successful promotions. Consult Mack on your custom packaging and closures requirements, now! Call or write for samples and prices, today!

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MOLDED EXCELLENCE

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PACKAGES *almost*

faster..... *....better!*

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VERTI-PAK makes transparent bags from flat roll stock of cellophane, polyethylene or poly-cel — then fills and seals — all **automatically!** Surprisingly modest in price, VERTI-PAK cuts packaging costs drastically! Write today!

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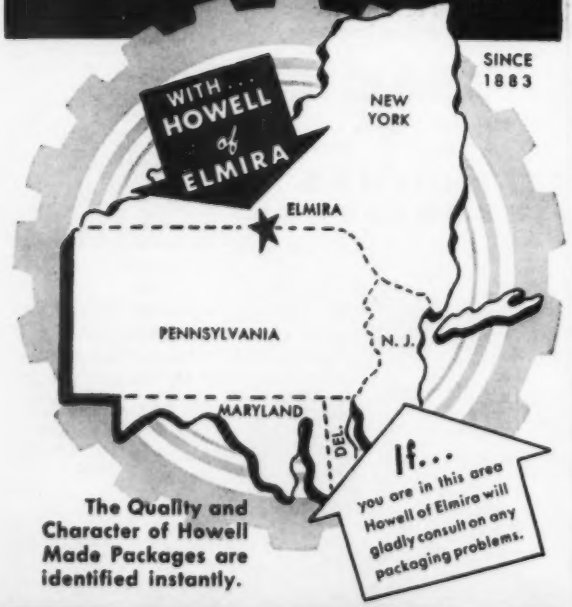
GEAR UP YOUR PACKAGING
for LABELS, BOXES & DISPLAYS



The Quality and Character of Howell Made Packages are identified instantly.

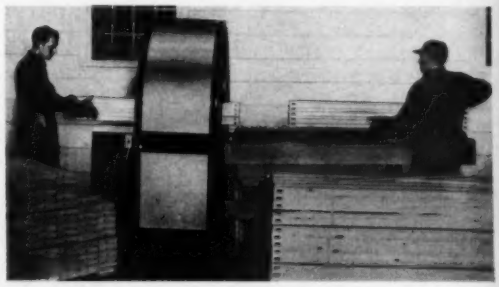
F. M. HOWELL & CO.
79-95 PENNSYLVANIA AVENUE, ELMIRA, N. Y.

Equipment and materials

section rigidity, can be printed by flexography or rotogravure in up to six colors and are said to withstand temperatures ranging from minus 40 to 180 deg. F. The lids fit firmly into vertical flange rims of the aluminum containers, to permit fast, easy closure and snug fit.

An electric girth-strapping machine

said to be capable of strapping, bundling or reinforcing on an assembly-line basis at speeds of 700 straps per hour has been announced by the Permacel Tape Corp., New Brunswick, N. J. Known as the Permacel 401, it is said to be especially suited for closing and reinforcing overlap-flap slotted containers, strapping cartons with valuable contents to prevent pilferage and bundling rods, tubing and lumber. Packages up to 12 by 12 in. with no limit on length can be handled, with minimum package size about 4 by 4 in.



A light-weight film-strip container

molded from high-impact polystyrene has been introduced by Creative Plastics Corp., Stony Brook, N. Y. Its weight, including a snap-in paper marking disk is only 8 gms., or less than ½ oz., height is 1 9/16 in. and outside diameter of the lid is 1⅝ in. The containers are said to have a smooth, clean edge on the inside that will not scratch film as it is removed and are available in an assortment of colors.

Three new tape sealers for transparent bags

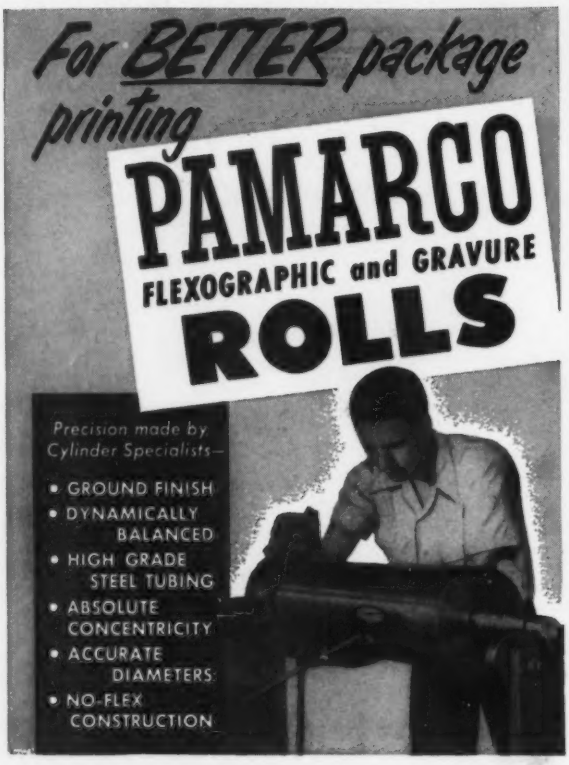
have been introduced by Minnesota Mining & Mfg. Co., 900 Fauquier St., St. Paul 6, Minn. Known as Models P-300, P-310 and P-320, the sealers are designed for use on polyethylene or cellophane bags up to 10 lbs. in capacity and accommodate 60-yd. rolls of paper tape up to ½ in. in width—enough, reportedly, to seal approximately 1,000 bags. On each unit (see photo) both sealing and cutting off can be done by the operator with one follow-through movement, by placing the twisted neck of the bag in a V-shaped opening, pulling down for the seal, then pulling up through the opposite side of the V to cut the tape.

Minnesota Mining & Mfg. Co. has also introduced a new semi-automatic bander, Model S-60, for applying pressure-sensitive tape to produce items. It uses 60-yd. rolls of ⅜- or ½-in. tape and is constructed either for portable use or for permanent mounting at packing stations.

Coating for corrugated interior packaging

announced by Stone Container Corp., 4200 W. 42 Pl., Chicago 32, is said to protect finished metal surfaces from abrasion damage without leaving a waxy deposit. Called Stone-ize, the coating is designed to replace conventional

CONTENTS 4½ OZ.
ODORLESS
IMRA
COSMETIC HAIR REMOVER CREAM
safe for FACE · LEGS · UNDERARMS
MEDICALLY APPROVED
SHEFFIELD TUBES
..AND IMRA, BOTH HIGHLY ACCLAIMED!
A cosmetic and packaging designed to keep women happy, beautiful and hair-free. Imra, product of Union Pharmaceutical Co., Inc., an ultra-modern depilatory for fastidious women, is safe even on delicate facial areas! Conveniently packaged in equally modern containers... Sheffield Process collapsible tubes, in which all products sell better! Make Sheffield your next order.
SHEFFIELD TUBE CORPORATION Factory and Home Offices, New London, Conn. Sales Offices: New York · Chicago · Los Angeles



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Can't flex or whip, assure perfect impressions on every run. Tubular construction reduces weight, tests stronger than solid steel. Ground finish to exact specifications.

• GRAVURE BASE CYLINDERS

PLAIN OR COPPER PLATED — Accurate core or base cylinders for rotogravure process reproduction. Recommended for long service in continuous printing production. Each roll carefully inspected prior to shipment.

• EVENFLO ENGRAVED ROLLS

Precision engraved rolls for the metered application of inks, plastics, adhesives, hot melts and other fluids. Call or write for complete information on economical Pamarco rolls!

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Pamarco precision cut gears insure accurate register. Specify them when ordering rolls.

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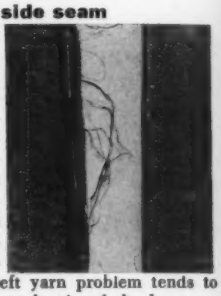
TUBULAR ROLLS	WARM SURFACE ROLLS
HEAVY DUTY ROLLS	RUBBER COVERED ROLLS
LIGHT DUTY ROLLS	ENGRAVED ROLLS
IDLER ROLLS	EMBOSSING ROLLS
CHILL ROLLS	CHROME PLATED ROLLS

Equipment and materials

paraffin-base wax on inner surfaces of corrugated pads where they touch finished metal surfaces.

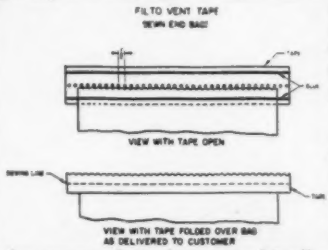
A new type of burlap-bag side seam



announced by Bemis Bro. Bag Co., 408 Pine St., St. Louis 2, Mo., is said to prevent raveling of loose weft yarns on the cut edges of the burlap. Known as "Edge-Lok," the seam reportedly eliminates the problem of yarns coming loose and mingling with the product packed or clogging automatic machinery. The feature is expected to be particularly helpful to companies having return-bag programs, since the loose weft yarn problem tends to become progressively worse with each trip of the bag.

A non-skid coating for multiwall bags

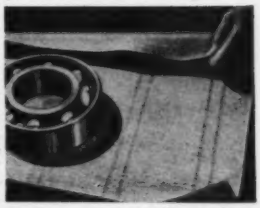
introduced by St. Regis Paper Co., 230 Park Ave., New York 17, is said to provide improved printing, less ink rub and a cleaner package, without using a rough-finish paper for the outer ply. St. Regis Lustergrip reportedly uses a new principle of coating the bags with a non-toxic substance which provides an even, clean surface that, at the same time, decreases slippage.



St. Regis has also announced the development of Filto-vent tape, which is designed to overcome production difficulties caused by the escape of air from a multiwall valve-type bag when aerated materials are packed. The new perforated tape (see illustration) allows air to escape between the stitch lines and through pinhole perforations, thus reducing "blow-back" during valve bag filling, permitting more accurate weights and less bag breakage.

A new greaseproof wrap using Mylar

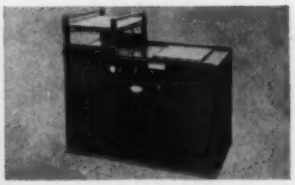
polyester film (produced by E. I. du Pont de Nemours & Co.) has been announced by Angier Corp., Framingham, Mass. Named Super Induwrap, the material is designed for greaseproof packaging of metal parts under Specification JAN-B-121. The polyester film is laminated with a neutral adhesive to red-striped neutral kraft, then creped-to-stretch to give the product the advantage of moldability in packaging. The Grade A wrap is produced in heavy and medium grades, in 36-in. rolls or sheets cut to the user's requirements, and can also be made to order in flat form. Using the polyester film, the wrap is said to resist grease penetration indefinitely and withstand acids, alkalis, fungus, bacteria and high temperatures.



A new-type filling valve

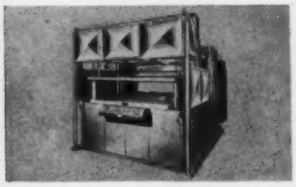
designed specifically for applications involving filling of liquids subject to foaming during the filling operation has been developed by the Perl Machine Mfg. Co., Inc., 68 Jay St., Brooklyn. The new valve is available on all the company's straight-line filling machines.

Economical, versatile VacForm equipment obsoletes conventional molding methods for many component and end products



Model 88. An economical full-scale vacuum forming machine . . . recommended for low cost pilot runs, experimentation, product development.

Model 88 FM. Compact, versatile machine arranged for both drape and straight vacuum forming . . . maximum mold size, 16½" x 16½" . . . manual and semi-automatic controls.



Model 76-52. Largest of the standard VacForm models . . . features 3 individually controlled zones in one heating unit . . . water cooling . . . draws up to 15".

SAVINGS UP TO 90% ON MACHINE INVESTMENT, 350% ON TOOLING COSTS

VacForm equipment costs substantially less than comparable plastic molding equipment, both in terms of original investment and tooling costs.

It can also give you increased production, lower costs and a broader range of end products. VacForm uses inexpensive molds . . . reduces retooling "down time" to a minimum . . . works with more types of plastics . . . requires minimum maintenance.

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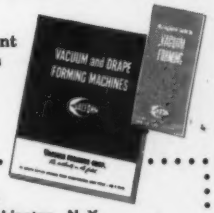

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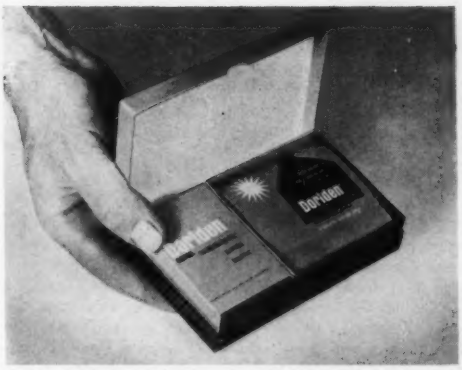
Principal business .....

MILLER BOXES

To awaken physicians' interest in 'Doriden' . . . its new, non-barbiturate sedative-hypnotic prescription drug . . . CIBA Pharmaceutical Products now uses an ingenious Miller Box that tells both sides of the story at once.

This special demonstration package is hinged at *both* top and bottom. It helps the CIBA representative capture the doctor's attention as he describes the dual use of 'Doriden' for daytime and nighttime use.

Ingenuity like this . . . plus strength of construction and dependability of service . . . keeps leaders in the pharmaceutical industry and many other industries coming back to Miller for set-up paper boxes. And, as experience proves, set-up paper boxes offer sales advantages that can't be matched by any other form of packaging! Would you like an ingenious, practical, economical idea for your packaging operation? Tell us your objectives and ask for our suggestions.



DUAL DEMONSTRATION: Lift the upper, blue lid of the special 'Doriden' box to reveal professional samples of the dosage form for daytime sedation, then . . .

Flip the box upside-down, lift the black lid, and you reveal samples of the companion product recommended for inducing calm, restful sleep at night.

"sleeper" that awakens sales!

Walter P. Miller Company, Inc.
452 York Avenue • Philadelphia 23, Pa.
MArket 7-2600

designers and manufacturers of set-up paper boxes

Plants and people

The new **Foil Kraft Division** of **Kaiser Aluminum & Chemical Corp.**, Oakland, Calif., organized to manufacture aluminum food containers, is under the management of **Alanson L. Brooks**. Mr. Brooks will have offices in Oakland. **Russell E. Smith** has been named manager of the division's Los Angeles plant and **Robert D. McManus** will manage the plant which is now under construction at Wanatah, Ind. **Edmund L. Duskey** has been named as division engineer. **A. J. Johnson**, formerly president of Foil Kraft, Inc., will continue with the division in a key advisory capacity.

Brooks

Thomas O. Williams has been named manager of the newly created Customer & Sales Service Dept. of **American Viscose Corp.**'s Film Division, Philadelphia. He is succeeded as New York district sales manager for Avisco cellophane by **Virgil N. Winkler**, previously manager of the sales order section of the Fredericksburg, Va., cellophane plant. **William B. Zemann** succeeds Mr. Winkler.

American Can Co., New York, has been honored by the Freedoms Foundation at Valley Forge, Pa., for its efforts in helping to bring about a better understanding of the American way of life through its high-school "Students-in-Industry" program. The George Washington memorial medal was presented to **T. E. Alwyn**, Canco vice president, at an awards ceremony in New York.

Crown Zellerbach Corp., San Francisco has re-aligned and staffed a number of advertising and sales promotion functions recently to coordinate programs throughout the organization. **Arthur L. Fox** is now manager of sales promotion and advertising for Crown Zellerbach's marketing services. **Bruce V. Parsons** and **Charles H. Roach** have joined the promotion and advertising staff as assistants to the sales promotion and advertising manager. **Joseph C. Tobin** is the new advertising and sales promotion manager for the firm's Western Waxed Paper division, with headquarters in San Leandro. **Warren E. Townsend** is now assistant to the manager of advertising and sales promotion at Western Waxed Paper.

Fox

Tobin

Barr

Also announced by Crown Zellerbach is the promotion of **Moss A. Barr** to Bakery Products sales manager of the San Leandro plant of the Western Waxed Paper Div. He will supervise the sales force servicing Central and Northern California, Nevada and Hawaii.

A Boston warehouse—the second in the East for Western Waxed Paper—has been opened for storage of frozen-food wrappers.

George H. Melvin has been appointed regional sales manager in the Plastics & Resins Div., **American Cyanamid Co.**, with headquarters at Charlotte, N. C.

The Acme Steel Co. has broken ground for construction of a new $1,500,000 office building in Riverdale, Ill., to house personnel now located at the company's offices at 2840 Archer Ave., Chicago. It is expected to be completed late in 1956.

Harold E. Moon has been appointed manager of the Cincinnati Sales and Service Branch of **The Yale Materials Handling Division, The Yale & Towne Mfg. Co.**, Philadelphia. He replaces **J. Russell Manning**, who has been appointed manager of the Yale branch in Detroit. **John R. Hogan** has been named manager of the Cleveland branch of the Yale Materials Handling Division.

Materials Handling Systems, headed by **Charles M. Grotz**, has been named a representative of Yale & Towne for the sale and service of industrial lift trucks in the Dayton, Ohio, industrial area. The 10-county area to be covered by the company was formerly served by a sub-branch under the direction of the Yale Sales and Service Branch in Cincinnati. They include Mercer, Darke, Preble, Shelby, Miami, Montgomery, Logan, Champaign, Clark and Greene counties.

Gilbert Plastics, Inc., Hillside, N. J., has announced the formation of an associate firm, **Polymer Products, Inc.**, for producing polystyrene molding products.

American Machine & Foundry Co., New York, has appointed **Alfred J. Fava** general manager of its Bakery Division.

Robert P. White has been elected vice president in charge of sales for the **White Cap Co.**, Chicago, makers of pry-off caps for glass-packed foods. Mr. White also holds the posts of secretary and director of the firm. **Jack Scanlon** has been appointed to replace Mr. White as manager of the central and south-central territories.

The Fulton Bag & Cotton Mills, New Orleans, La., has made the following appointments in its recently created General Office, Bag Division: **W. W. Plumb**, Atlanta, Ga., director of manufacturing; **J. A. Banda**, also of Atlanta, director of export sales; **F. C. Sivori**, New Orleans, director of canvas sales, and **H. H. Rogers** of Atlanta, in charge of industrial engineering.

Smith

Howard Smith has been appointed assistant general sales manager of the **Bakelite Co., a Division of Union Carbide & Carbon Corp.**, New York. His primary responsibility will be the pricing of materials and administration of contracts. Mr. Smith, former manager of the Industrial Products Dept., joined Union Carbide's plastics division in 1925.

George P. Schaefer, sales engineer, with the **Standard-Knapp Division** of **Emhart Mfg. Co.**, Portland, Conn., and predecessor companies for 35 years, has retired. When sales manager for the Fred H. Knapp Co, he initiated its merger with the Standard Sealing Equipment Corp., which established the Standard-Knapp Corp. Mr. Schaefer is a ruby pin member of the Old Guard Society and plans to remain active in the industry.

The research branch of **Aluminum Co. of America** has been officially named **Alcoa Research Laboratories**. Since its founding in 1918, "ARL" has stood for Aluminum Research Laboratories. A broadened scope of activities prompted the name change. Research by the organization, devoted to aluminum in its early years, now includes alumina and chemicals, aluminous ores, tars, pitches, lubricants, radioactive isotopes, gallium, titanium, magnesium and other metals. Now being installed at the New Kensington headquarters of ARL are facilities for research in the field of aluminum foil packaging, for fatigue testing aluminum alloys at elevated temperatures and for ultrasonic inspection. ARL has branches in Cleveland, E. St. Louis, Ill., and Massena, N. Y.

Permacel Tape Corp., New Brunswick, N. J., has appointed the following six new manufacturers' representatives: For the New Jersey and New York area, **R. L. Gentry** of the R S A Co., 15 Park Ave., Rutherford, N. J. For Iowa, Nebraska, Kansas, Missouri and Southern Illinois, **H. W. Knaggs**, 7503 Melba Lane, Belleville, Ill. For Wisconsin and

Perfect radio reception...

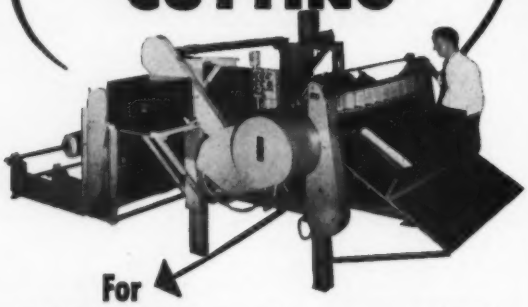
G.E.'s new all transistor portable
is always well received, because its
package "sends" so well. Looks good, too.
For package protection and eye appeal,
take your problems to H & D.

HINDE & DAUCH

Subsidiary of West Virginia Pulp and Paper Company

AUTHORITY ON PACKAGING • SANDUSKY, OHIO
13 FACTORIES • 42 SALES OFFICES

HOBBS Engineers AUTOMATIC CUTTING



For

BURKHARDT CO., Detroit, Mich.

The Hobbs Production Cutter shown here was specially designed for Burkhardt Co., manufacturers of loose leaf binders and similar products. This machine automatically slits and cuts leatherette, acetate and coated fabrics received from rolls, and delivers it to a stacker.

Materials up to 60" wide can be slit and cut into various widths and lengths. Production varies according to length of cut. However, in a typical operation 24" lengths are cut at the rate of 3000 pieces per hour.

If width is slit into 3 sections, production of pieces is tripled.

Accuracy is described as exceptional, with savings in materials through elimination of waste.

Jacques **HOBBS ALSO MAKES HAND SHEARS**

Bench model shown here is one of a complete line for light gauge or bulky cutting of web widths from 12" to 10' — practically all soft materials.

SEND FOR THE HOBBS ENGINEERED CUTTING BROCHURE — This brochure will help you to determine what type of cutting equipment is best suited to your requirements.

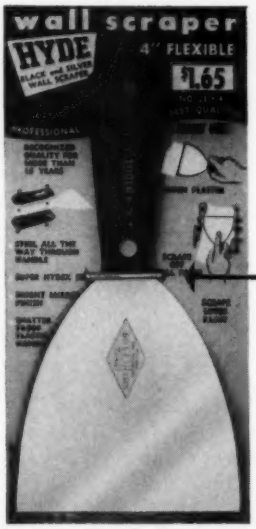
OR TELL US YOUR CUTTING REQUIREMENTS and send us a sample of your material. We'll make recommendations free of all obligations.

HOBBS MANUFACTURING CO.
EST 1903
27 Salisbury St., Worcester 5, Mass.

N. Y. Area Office, 821 Eighteenth Ave., Irvington 11, N. J.; Chicago Office, 549 W. Washington Blvd.; South Carolina Office, Parrott & Ballentine, 510 South Carolina Bank Bldg., Greenville; Canadian Representative, The E. V. Larson Company, 572 Queen Street, East, Toronto 2, Ont.; Cleveland Office, P. O. Box 5013, Cleveland 1, Ohio

Winders • Hand & Power Shears • Slitters • Die Presses • Corner Cutters

Staple-carded wall scrapers sell themselves



"To sell itself the entire scraper should show," decided its makers. Slotted cards would not do. But stapling would — quickly, neatly and at lower cost. The fastest and neatest and lowest cost way to card it was with Bostitch stapling.

This is the staple. It increases turnover and profits and sales yet costs less than a tenth of a cent! Bostitch stapling is learned quickly by inexperienced personnel. Look up Bostitch in phone book or write 485 Mechanic St., Westerly, R.I.

Fasten it better and faster with

BOSTITCH
STAPLERS AND STAPLES

WHEN YOU NEED

practical
versatile
eye-catching
gift-packaging

TINS
. . . buy from SPECIALISTS!

Enjoy better quality, bigger variety, faster delivery, custom designing. Beauty, too, coupled with exclusive patterns, designed to help sell your product! For quantity orders, we'll gladly design an exclusive package for you alone. Smaller requirements can be filled from our stock sizes and designs. For samples and quantity prices . . . call or write to

ATLANTIC CAN CO.
301 PARK AVE., DELAWANNA, N. J. PRescott 7-4500

Plants and people

Northern Illinois, **L. A. Chambers Co.**, 5906 W. North Ave., Chicago. For Southern New Jersey, Pennsylvania, Delaware, Maryland, District of Columbia and Virginia, **Edward Braddock**, Browning Lane, Haddonfield, N. J. For Michigan, **Jack Thorpe**, 640 Hidden Lane, Detroit. For Kentucky, Ohio, Western Pennsylvania and West Virginia, **Near Bear Corp.**, 3435 Streetsboro Rd., West Richfield, Ohio.

Potts

Appointment of **C. Rowan Potts** as Cleveland district sales manager for **The Hinde & Dauch Paper Co.**, Sandusky, Ohio, has been announced. Mr. Potts, who joined H&D in 1952, will be responsible for sales of the production of the firm's Cleveland factory.

Paramount Paper Products Co., Inc., Philadelphia, has purchased the glassine and other paper-bag business carried on by the Chicago division of the **American Paper Goods Co.**

Paul A. Pratt, formerly with the Borden Co., has joined **Dairypak, Inc.**, Cleveland, Ohio, as Western Division sales development manager. He will be responsible for coordinating sales development activities for Dairypak's Ice Cream and Pure-Pak carton division, with headquarters in Clinton, Iowa.

Anchor Hocking Glass Corp.'s Pacific Coast Closure and Tableware Divisions and the firm's **Maywood Glass Co.** subsidiary have moved their Northern California sales offices to 340 Market St., San Francisco 11.

The Edwin J. Schoettle Co., Inc., Philadelphia folding box manufacturer, has announced a re-apportioning and re-assigning of all sales territories to provide more effective contact with its customers. **John Boardman**, sales manager, has been made vice president in charge of sales. **D. Russell Connor** continues to represent the company in metropolitan Philadelphia, eastern and northeast Pennsylvania. **Edward T. Durphy** will cover metropolitan Philadelphia, southeast Pennsylvania, the eastern shore of Maryland, Baltimore and Washington. **Kenneth I. Dadson** has been assigned to metropolitan New York and North Jersey. **Clark Greene** is metropolitan New York representative. **Henry A. Bissig** is to cover metropolitan Philadelphia. **Arthur Herman** will cover New York City. **William D. O'Donnell** will cover metropolitan Philadelphia, southern New Jersey and northwest Pennsylvania. **Ted Heidenreich, Jr.**, is representative in Massachusetts, Rhode Island, Maine, New Hampshire, Vermont and northern

Packaging speaks . . .

. . . with a voice of steel and makes a fine impression.

Yes, more and more packaging men are finding out why steel engraved cylinders are giving them the printed package they're looking for.

They're learning about the greater print clarity that makes packages sparkle. And the long-lasting quality of steel that assures perfect reproductions down to the last impression. Too, they're discovering something new in faultless color registration.

Vitra-Tone Engraving offers chrome-plated steel cylinders in any size up to 36" long. Each cylinder is quality controlled every step of the way because the job is done under the expert eyes of Vitra-Tone craftsmen. This not only assures you of quality engravings, but of on-time deliveries as well.

Every printed package speaks. Make sure yours is in good voice. And you are sure when you use steel engraved cylinders by Vitra-Tone. Write today for prices and details.

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ONE WAY TO OVERCOME THE

CELLOPHANE SHORTAGE

The situation regarding the short supply of cellophane and transparent wraps is more than a rumor. It is so serious that a cellophane printer called us to visit one of his customers in the hope that we could help salvage some old wraps because replacement would present a supply problem.

Since in this instance the customer needed only changes in price and ingredients, it was not necessary to re-run the wraps. We provided an ABLE-STIK (pressure-sensitive) label that did the job in jig time at low cost, making possible the use of present wraps thus eliminating the problem of obtaining new wraps under the present cellophane shortage.

It could be that you might save yourself a headache by using ABLE-STIK labels on your present cellophane wraps. Send for our free ABLE-STIK kit. It will give you ideas galore.

ALLEN HOLLANDER CO., INC.

Makers of ABLE LABELS

385 Gerard Ave., New York 51

Phone:

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Plants and people

Connecticut, **J. Carl Fleck** is sales representative of central Jersey from Trenton to Newark. **Richard Straile** of Mohawk Container Co., Maspeth, N. Y., is representative on special accounts in New York City and Florida.

Paisley Products, Inc., New York, has acquired the **Woerz Paste & Gum Co.** of Los Angeles. The firm will be operated as a Paisley division and plans are being made for expansion of sales, warehousing and manufacturing facilities. **Ralph C. Woerz**, former owner-manager, will continue as general manager of the Los Angeles Division. The merger will provide nation-wide coverage for the Paisley Products line. The Los Angeles plant will also provide warehousing and technical sales servicing of the product line of the parent company, **Morningstar, Nicol, Inc.**

Woerz

National Can Corp., Chicago, has elected **S. M. Hopkins** as vice president and **Harry N. Eidswick** as assistant treasurer. Mr. Hopkins continues as general manager of sales, Pacific Division, and assistant to the president. Mr. Eidswick continues also as controller of the firm's Pacific Division. **Burk Kraleman** has been appointed general manager of sales, Central Division, with headquarters in Chicago. He will be responsible for all general line and packer can sales in the territory from the Ohio-Pennsylvania state line to the Rocky Mountains. National Can will soon open a new plant for lithographing, coating and lacquering tinplate, to be located at 1961 N. Cornell Ave., Melrose Park, Ill. National has purchased all the metal decorating equipment formerly operated by **Benjamin Wolff Co.** and will install additional equipment in this plant.

Wendell D. Jones has been elected vice president in charge of glass machine sales for **Lynch Corp.**, Anderson, Ind.

Arthur D. Little, Inc., industrial research consulting company, Cambridge, Mass., has completed arrangements for the acquisition of **The Miner Laboratories**, Chicago chemical consultants. **John R. Kirkpatrick**, who established the ADL Midwest office, will manage the new ADL Midwest Division-Miner Laboratories. **Dr. C. S. Miner, Jr.**, will continue to direct its technical operations, which will supplement ADL's main Cambridge laboratories in research through the Midwest.

Bernard W. Lueck has been appointed general sales manager of the reinforced plastics division of **Minnesota Mining & Mfg. Co.**, St. Paul, Minn. **Richard E. Strong** has been promoted to sales manager of the east central ribbon division, responsible for ribbon sales in Detroit, Cleveland and Buffalo. Mr. Strong's headquarters will be in Cleveland.

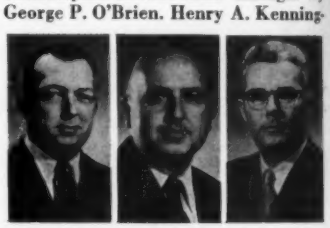
Construction has started at Carteret, N.J., on **Hudson Pulp & Paper Corp.'s** first paper cup and container plant. The $2,000,000 unit is earmarked for completion next summer.

Manufacturing operations at the new multiwall bag plant of **St. Regis Paper Co.** in Kansas City, Mo., are expected to start early this summer.

Stanley M. Bixler has been appointed general manager of the **Crown Cork & Seal Co.'s** Western division. **Edmund B. Spread**, who has been serving as acting general manager, has been named assistant general manager. Mr. Bixler will headquarter in the company's San Francisco offices.

Bixler

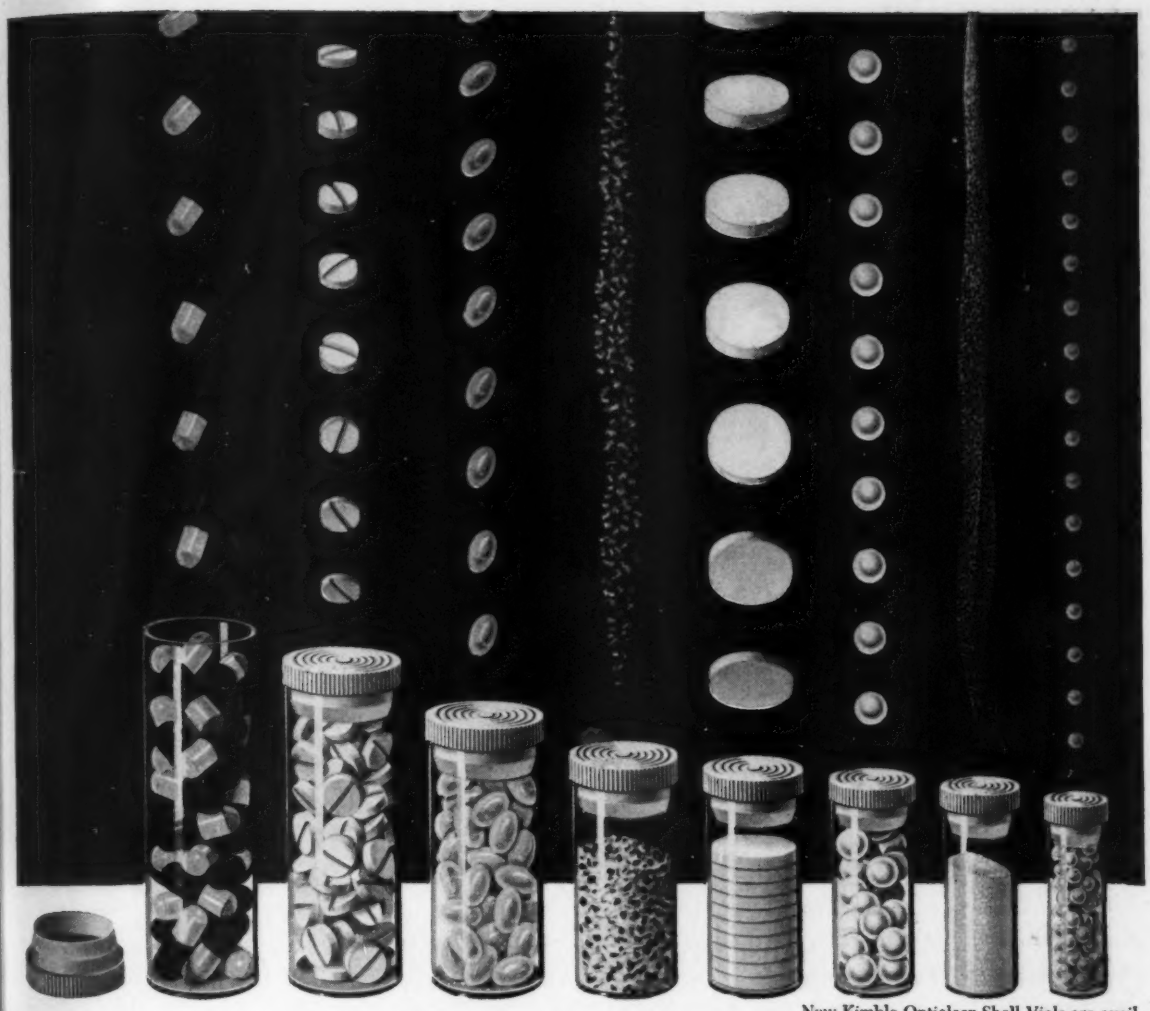
Robert J. Siebert has been appointed Northeast area sales manager for Crown Cork & Seal's Can Division, Philadelphia. Mr. Siebert is being replaced as Philadelphia district sales manager by **George P. O'Brien. Henry A. Kennington** has been named Midwest area sales manager and will headquarter at 3501 W. 31 St., Chicago. **Harvey C. Tull** has been appointed manager of Aerosol products and will be responsible at a staff level for the promotion, marketing and sales of Crown's Spra-tainer aerosol containers. **Charles M. McKenna** has been named office manager, New York sales, and **Robert Shick** has been assigned to the Philadelphia district sales force.



Siebert Kennington Tull

J. L. Hollis has been named mill agent at the Bagpak plant of **International Paper Co.**, Bastrop, La.

The Hazel-Atlas Glass Co., Wheeling, W. Va., has named **J. T. Jones** as sales manager for glassware sales in the New York district, with headquarters presently in the Woolworth Bldg., but to be located at 415 Madison Ave. after June 1. **Robert W. Brindley** will be sales



New Kimble Opticlear Shell Vials are available in 1, 2, 3, 4, 5, 7, 10, and 12-dram sizes. Polyethelene stoppers are hollow, providing more room for contents.

Now . . . every dry product can afford sparkling glass containers . . .

KIMBLE OPTICLEAR SHELL VIALS

Designed and priced for mass packaging

You can give your dry products the sales advantages of a sparkling-clear glass container—*no matter what your cost requirements.* Kimble Opticlear Shell Vials is the new vial line designed, produced—*and priced*—to make it practical and economical for packaging almost any dry product.

These new Kimble Opticlear Shell Vials have crystal-clear clarity, gleaming beauty, unusually high moisture-vapor resistance. New Kimble Opticlear Shell Vials are light and sturdy. The sparkling clarity of the glass provides perfect vision of contents, permits labeling either inside or outside.

New Kimble Opticlear Shell Vials have special, resilient, plastic stoppers to keep contents fresh and clean . . . free from dust, dirt and moisture. Even after stoppers are removed and replaced repeatedly, they re-seal tightly . . . are always easy to use.

If you are using an ineffective package, you can afford to switch to these new Kimble Opticlear Shell Vials. Write now and we'll send you information, prices and free samples of the sizes you use. Kimble Glass Company, subsidiary of Owens-Illinois, Toledo 1, Ohio.

KIMBLE OPTICLEAR SHELL VIALS
AN (O) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES · TOLEDO 1, OHIO

Is your packaging production bottled up?

Time to "break out" with an *Automatic* CAMPBELL WRAPPER

Increases packaging production up to 300 units per minute!

Nothing relieves packaging bottlenecks quite so quickly as the CAMPBELL Wrapper — whether your product is oddly shaped — or has a consistency that is soft, hard, crisp or fragile. Packaging savings are tremendous, too, as most products are wrapped without costly trays or stiffeners, *unless desired!* Extremely simplified *automatic* operation permits one person to tend several machines at same time. Efficient heat, glue or crimp sealing does away with wide fold-overs and costly excess wrap material. *Vacuum Packaging*, too — as air-tight as you've ever seen. Write for complete facts today.

Speeds production
... wraps up to 300 units per minute

Cuts labor costs
... simplified one person operation

Saves materials
... uses no boards or stiffeners unless desired

Write for fully illustrated and descriptive brochure

Campbell WRAPPER

HUDSON-SHARP MACHINE CO. • GREEN BAY, WIS.

Manufacturers of Aniline and Gravure Presses, Folders, Interfolders, Laminators, Waxers, Embossers, Slitters, Sheeters, Roll Winders, Packaging Machines, Creepers and Tissue Converting Units

New York office: 55 West 42nd Street

Plants and people

manager for glassware sales in the Chicago district, with offices at 228 N. LaSalle St.

Nash

Bill Nash has been appointed head of the newly created **Product Development Dept.** of the **Sutherland Paper Co.**, Kalamazoo, Mich. The new department, which will be activated on July 1, will centralize and correlate activities now carried on by the company's individual marketing divisions for improving existing products and developing new ones.

General Aniline & Film Corp., New York, plans to construct a new ethylene oxide and ethylene glycol plant to cost about $8,000,000. The new facilities will be located at the existing Dyestuff & Chemical Div. plant in Linden, N. J. Production capacity of the ethylene oxide plant is expected to be 60 million pounds a year, with operations scheduled to start in 1957. General Aniline's new $6,000,000 high pressure acetylene chemicals plant at Calvert City, Ky., is now in production.

Edwin Mendels has been appointed product manager of the Tape Division, **Angier Corp.**, Framingham, Mass. **Raymond O'Brien** is now based at Framingham to handle industrial needs for the company's Spiralwrapping service and products.

Sherman Paper Products Corp., Newton Upper Falls, Mass., plans to expand its West Coast facilities by the addition of two new plants, one in San Francisco, the other in Seattle, and a new warehouse building in Los Angeles.

Bernard Hoffman has been appointed **sales manager of the Seal-O-Matic Dispenser Corp.**, New York, makers of tape dispensers and moisteners. He will also supervise sales for the firm's affiliate organization, **Flash Box Opener Co.**

Behr-Manning, division of **Norton Co.**, Troy, N. Y., has named **William J. Sweeney** as Pacific regional sales manager and **Fredrick D. Stevens** as industrial sales manager of the Los Angeles division.

Ewald N. Peterson has been appointed plant manager of the Ft. Madison, Iowa, paperboard mill of **Crandon Enterprises, Inc.**, Chicago. **Carl Langenbach** has been named chief forester for the plant.

Regent Paper Box Co., Philadelphia, has installed new manufacturing equipment and added 35,000 sq. ft. of warehouse space to its facilities. Production

"Which does Madam prefer?"

Here's how to find out without opening every box in the store . . .

Because Kodapak Sheet is tough, durable—retains its crystal clarity through thick and thin—colors, details are easy to see without touching. *Result: Madame looks—likes the one.*

Because Kodapak Sheet protects merchandise from dust, dirt, handling—merchandise stays fresh, salable longer. *Result: Madame buys with confidence.*

Because Kodapak Sheet runs true to gauge and width, it makes up well, economically. *Result: Boxes cost less to produce, are attractive, long lasting—have excellent re-use life in the home.*

HOW ABOUT YOUR PACKAGING?

Kodapak Sheet is available to make packages which sell.

For further information, call on our representative or write for literature together with names of firms using Kodapak Sheet or handling it.

Nested hat boxes made of Kodapak Sheet IV by Chicago Paper Box Company, Chicago, Illinois.

Cellulose Products Division, EASTMAN KODAK COMPANY, Rochester 4, N. Y.

Kodapak Sheet

"Kodapak" is a trademark

MAKES GOOD MERCHANDISE SELL BETTER

Sales Offices: *New York, Chicago, Atlanta.* Sales Representatives: *Cleveland, Philadelphia, Providence.* Distributors: *San Francisco, Los Angeles, Portland, Seattle (Wilson & Geo. Meyer & Co.); Toronto, Montreal (Paper Sales, Ltd.).*

"Now... we turn out better work on our flexographic press... and save money too!"

MOSSTYPE'S Integrated Rubber Plate Service is key to top-quality printing and higher press production

Make it MOSSTYPE for...

"Flexogenic" **ARTWORK**

Black-and-white copy that is *right* for flexographic printing because it's *engineered* by artists who specialize in this work . . . know by experience the best techniques for reproduction from rubber plates.

"Extra-Depth" **PATTERN ENGRAVINGS**

Perfect patterns for molding perfect plates . . . free of ragged shoulders and undercuts, etched extra deep and clean. Assure sharper, crisper printing with fluid inks . . . better color register . . . fewer stops for washup.

Premadeready **RUBBER PLATES**

Made by craftsman specialists, triple-checked for quality by technical specialists . . . you can depend on MOSSTYPE plates for consistently good impressions, long life and trouble-free performance on the press. Available flat or pre-curved, with choice of backing.

Ready-to-Print **DESIGN ROLLERS**

Best way to print seamless all-over designs . . . complex jobs with close register or many small repeats . . . long-run and stock jobs. Custom-made with your design . . . on your cylinders or ones we furnish.

Write for literature describing MOSSTYPE Services for Rubber Plate Printers

RUBBER PLATES MOSSTYPE® DESIGN ROLLERS

MOSSTYPE

150 Franklin Turnpike, Waldwick, N. J.

A complete production service for converters and package printers everywhere

Plants and people

under the expansion program has reached 150,000 boxes daily.

The Kahn Container Corp. has been organized at 740 E. 51 St., Chicago, to produce corrugated shipping containers. Officers of the company include **Harold Kahn**, president; **Fred Sanders**, vice president; **Alec Gianaras**, treasurer, and **Ed Bernsen**, secretary.

Oldenkamp

Harold A. Oldenkamp has joined the **Food Machinery & Chemical Corp.**, San Jose, Calif., as manager of central engineering. Mr. Oldenkamp has been associated with American Machine & Foundry Co. for the past eight years.

The second annual "Painting of the Year" competition and exhibit, sponsored by the **Atlanta Paper Co.**, Atlanta, Ga., has been set for May 13-June 3. Some 75 paintings will be exhibited in the galleries of the Atlanta Art Assn.

Lewis C. Dunn has joined the Louisville, Ky., sales office of **The Lord Baltimore Press**, Baltimore, Md.

Lew R. Ayers and **Harold E. Brakewood** have been appointed directors of product control for two folding carton division plants of **Robert Gair Co., Inc.**, New York. Mr. Ayers has been assigned to the Gair Cartons Div., Piermont, N. Y., and Mr. Brakewood to the Elkhart, Ind., plant, ACM Division.

N. N. Northcross has been named president of the **George B. Woodcock Co.**, Los Angeles. Mr. Northcross, formerly a partner in the firm, succeeds George B. Woodcock, who died recently. The Woodcock firm is West Coast representative of **Blocksom & Co. Packaging Division** of Michigan City, Ind.

A. Burr Craft has been appointed plant manager of the Rochester plant of the **Beech-Nut Packing Co.** to succeed **Sherman Morse, Jr.**, who was recently appointed vice president in charge of Beech-Nut food production.

Joel Edelstein has joined the technical staff of the Resinous-Reslac Dept. of the **Borden Co.'s Chemical Division**, He will be based in Peabody, Mass.

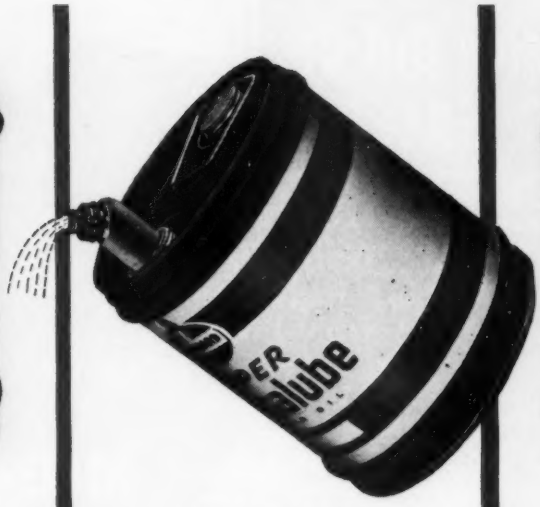
C. L. Allen has joined the sales organization of the **Denver Flexible Packaging Co.**, Denver, Colo.

Web Controls Corp., formerly of Flushing, N. Y., is now located at 300 Straight St., Paterson, N. J.

The Mead Corp., Dayton, Ohio, has promoted **George H. Sheets** to the new position of assistant division manager

EASY TO SHIP

Tri-Sure Reversible Assemblies are protected inside the pail during shipment.



EASY TO POUR

Extended spout reaches inaccessible openings, and reducer cap provides two pouring sizes. Vent makes pouring easy.

EASY TO FILL

2¼" Tri-Sure nozzle and solid screw cap used for filling and venting.

Tri-Sure® Reversible Assemblies make STANDARD OF INDIANA pails *better packages for 4 different lube oils*

STANDARD OF INDIANA's fine lube oils are more popular than ever among farmers, sportsmen, gardeners and contractors when they are shipped in pails equipped with the new *Tri-Sure* Reversible Spout Assembly.*

Standard of Indiana ships four brands of motor oil, plus miscellaneous lubricants, in this new Tri-Sure equipped pail—and the result is that all products have an *additional sales advantage.*

Tri-Sure Reversible Spouts are available in varying assemblies: offset, extended offset and straight spouts, with or without reducer caps; and plastic spouts. Standard specifies the Tri-Sure 2¼" reversible UV assembly with extended spout, reducer cap and 2¼" filling and venting openings.

Make your pails the kind that customers prefer—and give your products another sales feature—by standardizing on the new Tri-Sure Reversible Assembly. Send for samples and full details now. Information is available on the complete Tri-Sure line of drum and pail fittings.

**The "Tri-Sure" Trademark is a mark of reliability backed by over 35 years serving industry.*

AMERICAN FLANGE & MANUFACTURING CO. INC., 30 ROCKEFELLER PLAZA, NEW YORK 20, NEW YORK
CHICAGO, ILL. · NILES, OHIO · LINDEN, N. J.
Tri-Sure Products Limited, St. Catharines, Ontario, Canada
Tri-Sure S/A Indústria e Comércio, Sao Paulo, Brazil
American Flange & Manufacturing Co. Inc., 31 Macquarie Place, Sydney, Australia
B. Van Leer N. V., Stadhouderskade 6, Amsterdam, Holland
Van Leer Industries, Ltd., Seymour House, 17 Waterloo Place, Pall Mall S.W. 1, London, England

Always specify **Tri-Sure** Reg. U. S. Pat. Off **CLOSURES**

EASY TO STACK

Both closures are below the pail chime.

Are You Missing Out On INCREASED SALES?

Department, Specialty, Variety and Chain store sales records prove that products packaged in semi-rigid plastic containers show a greater profit margin, because packaging means:

- **Complete visibility with product protection.**
- **Sparkle and eye-appeal at point-of-sale**
- **Pre-selling in fast growing self-service field.**
- **Impulse buying.**
- **Multiple-unit sales.**
- **Incentive of a re-usable container.**
- **Better appearance and stacking on shelf and counter.**
- **Less sales help needed.**
- **No markdowns due to handling and soiling.**

FOR ALL PRODUCTS IN ALL FIELDS

Whether you produce soft goods or hard goods, cosmetics or confectionery, or any other product in a thousand and one fields, you will find that acetate packaging will enhance the beauty of your product and increase its sales.

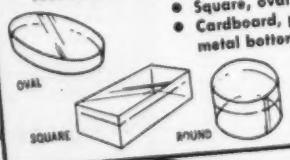
VIZ-PAK® Your Product IT COSTS YOU LESS!

- Packaging increases your sales.
- Unit Package cost goes down as sales go up.
- Multiple-unit sales cut individual item packaging expense.

VIZ-PAK®

AVAILABLE IN ALL SHAPES, SIZES, COLORS

- Square, oval and round.
- Cardboard, plastic and metal bottoms.
- Multi-color silk screening, gold stamping or printing.



MAKE THIS TEST

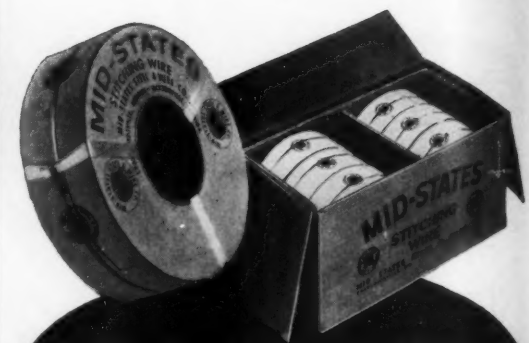
Send us your product. We will make a sample package in the correct size and shape and send it back to you with a complete packaging estimate. There is no charge nor obligation for this service. Don't guess whether Viz-Pak can help you—make sure! For samples, information or quotations, write or phone:

World's largest manufacturer of semi-rigid plastic containers

Development Division

J. E. PLASTICS MFG. CORP.

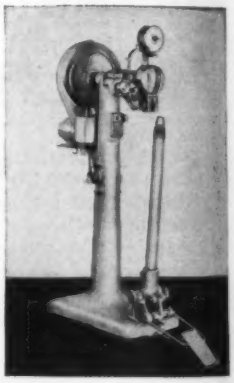
555 W. 23rd St. New York 11, N. Y.—Oregon 5-6789



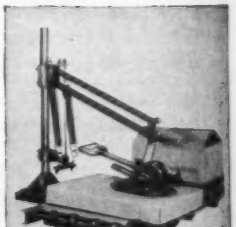
Get High-Speed, Uninterrupted Stitching with MID-STATES

Turn to Mid-States for fast, economical production and packaging. For over half a century Mid-States has led in consistent, high product quality and cost cutting know-how. Whatever your packaging need, it will pay to do business with Mid-States.

MID-STATES STITCHING WIRE on fibre throw-away spools gives you frictionless, uniformly smooth flow — off the coil and through the stitching head—to assure high speed, uninterrupted operation. *Available in 5, 10, 25, 50 lb. spools. All Standard gauges. Special gauges on request. Galvanized and copper-coated finishes.*



MID-STATES BOTTOM STITCHER MACHINE staples carton bottoms up to 72" wide, 40" deep. Effective on board stock to a maximum thickness of 3/16". Single foot pressure on saddle plate brings Bottomer Post into position. The famous "Tip-Toe" contact on electric switch starts and stops stapling. *Stapling Head Arms in 12, 30, 36 inches in length. Straight Arms and Sword Arm types also available.*



MID-STATES WIRE TYING MACHINES are your fastest, most economical means of assuring safe, intact shipments of products. Mid-States "T" model is the answer—it's simple, streamlined and fast! Moving handle forward and back tensions, ties, cuts wire in one easy operation. Mid-States supplies the wire to use with each machine.

MID-STATES STEEL & WIRE COMPANY

MID-STATES STEEL AND WIRE COMPANY

CRAWFORDSVILLE, INDIANA • JACKSONVILLE, FLORIDA

Plants and people

of the Chillicothe Division. Mr. Sheets was formerly assistant division manager of Mead's Kingsport, Tenn., division. At the Kingsport mill, **John R. Taggert** will move up to production manager and **C. Norman Spencer** will replace Mr. Taggert as general paper mill superintendent.

Alexander G. Koos has joined the sales development department of the Plastics Division, Celanese Corp. of America, New York.

Kenneth J. Moore & Co., Chicago, has been named agent in the United States and Canada for **Fischer & Krecke**, Bielefeld, Germany, makers of web-fed machines such as flexographic presses, coaters, sheeters, slitters, multiwall bag machines, cellophane bag machines, etc. Moore will stock certain models of the German firm's machines, including an envelope machine for making envelopes at high speed from web.

Joseph R. Hager, Jr., has been appointed director of manufacturing for **Gar Wood Industries, Inc.**, Wayne, Mich. **A. S. Wurfel** has been named assistant director of manufacturing.

Charles F. Pfeifer has been appointed a vice president of **Jim Nash**, New York industrial design firm. Mr. Pfeifer will serve as sales and functional packaging consultant.

Edward Buck has been named machine service engineer for the Film Division of **Olin Mathieson Chemical Corp.**, New York. He replaces **Frank Di Franco**, who has resigned.

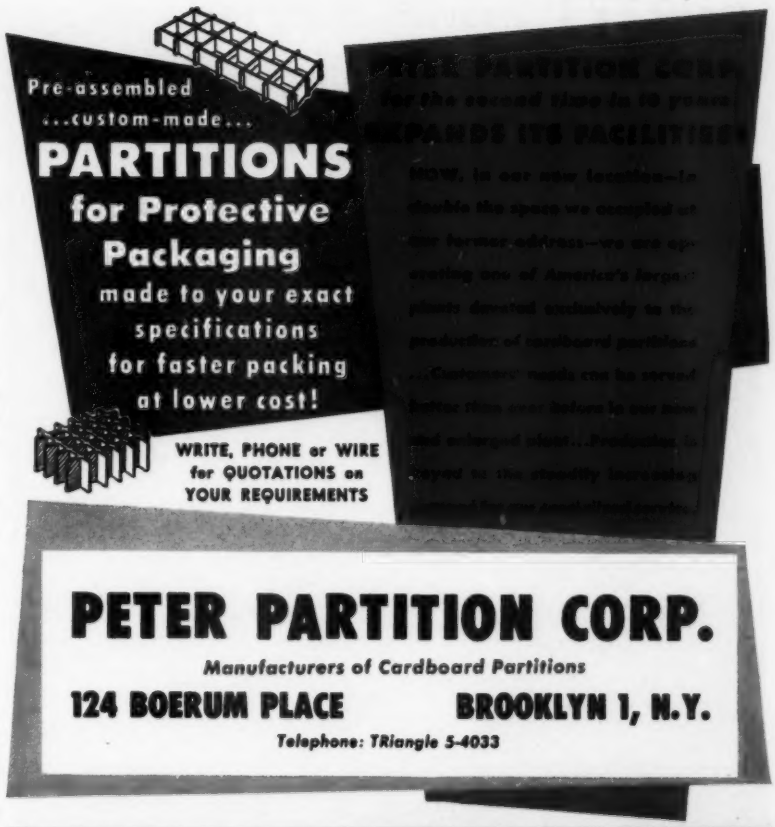
Earl H. Cotton has been appointed as a salesman in the Columbus, Ohio, branch of the Glass Container Div., **Owens-Illinois Glass Co.**, Toledo, Ohio.

The New York contract packaging firm of **Dyn Corp.** has moved to larger quarters at 285 Palisade Ave., Cliffside Park, N. J., just 15 minutes from New York City.

Jerome B. Glucksman has been appointed director of client relations at **Michael Saphier Associates, Inc.**, New York industrial design firm.

The Hayssen Mfg. Co., Sheboygan, Wis., makers of packaging machinery, have opened a new sales office at 1140 Broadway, New York 1, which will be responsible for sales, installation and maintenance of the company's equipment in the Metropolitan and New England areas. **A. F. Perry**, regional sales manager, is in charge. Service engineers will be located in the new office.

The Hooker Electrochemical Co., Niagara Falls, N. Y., has made its Durez Plastics Div. sales department responsible for sales of the company's Hetron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...custom-made...
PARTITIONS
for Protective Packaging
made to your exact specifications for faster packing at lower cost!
WRITE, PHONE or WIRE for QUOTATIONS on YOUR REQUIREMENTS
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WRAP-ADE
LIQUID
UNIT PACKAGER
Wrap-Ade Liquid Unit Packagers are versatile, low cost machines designed specifically for faster packaging with less waste. They perform an entire cycle of packaging operations. Practically every type of heat sealing material may be used.
• Handles up to 3 oz. of liquid product.
• Available in 1, 2 or more rows depending on size of package, contents, etc.
• Speed averages from 40 to 60 packages per row output.
Send us a sample of your product for our prompt quotation
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Phone: PLymouth 9-6150

Bracon . . . SQUEEZE-TO-USE PACKAGING

Squeeze gently . . . sweet after!

Pardon our poetic license . . . but how well it describes this radically new package of "Pearson Sakrin." A gentle squeeze to the pliable bottle releases just the right amount of liquid sweetener for beverages and foods . . . hot or cold. What a boon to calorie counters or anyone who seeks sweetening in this most convenient manner.

"Sakrin" is packed in brilliantly printed BRACON squeeze-to-use polyethylene bottles of 34 and 84 cc capacities. Bottles are received at the Pearson plant with caps screwed-on, covering the unique drop forming orifice. Bottles are filled and sealed up to 180 per minute on automatic equipment made by Horix Manufacturing Co.

BRACON squeeze-to-use tubes and bottles are low in cost . . . thoroughly functional and strong in merchandising appeal. Consumers prefer their easy dispensing, lightness and appearance. There are BRACON squeeze-to-use packages for creams, powders and liquids ranging in capacities from 2 cc's to 32 ounces . . . may we tell you more? Write or phone today.

BRADLEY CONTAINER CORPORATION

Maynard, Mass. — *New York, Chicago, Los Angeles, Toronto*

Plants and people

polyester resins. Sales of these materials are under the direction of **Alfred W. Hanmer, Jr.**, vice president in charge of sales for the Durez Plastics Div. The Hetron sales group has been transferred to the Durez offices at North Tonawanda, N. Y. **Charles Y. Cain**, former manager of plastic sales for Hooker, has the new title of sales manager, Hetron polyesters. **Robert J. Entenman**, sales representative for Hetron, has been transferred to 3120 E. 135 St., Cleveland, Ohio.

Synvar Corp., Wilmington, Del., has promoted **Forrest E. Phillips** to the post of sales manager of its Phenolic Molding Compound Dept.

The National Wooden Box Assn., Washington, D. C., has added to its staff **Thomas J. Luddy**, formerly packaging technologist with the U. S. Navy's Bureau of Ships. Mr. Luddy will handle specific container projects under the association's market expansion program and will be available to assist users of shipping containers in solving shipping and materials-handling problems.

General offices of the **Colton Chemical Co.**, a division of Air Reduction Co., Inc., have been moved to new and larger quarters at 1747 Chester Ave., Cleveland 14, Ohio.

R. C. Adamson has been promoted to plant manager of the **Wabash Fibre Box Co.**'s Terre Haute, Ind., Div. The company, a subsidiary of **The Weston Paper & Mfg. Co.**, Dayton, Ohio, will soon open its new corrugated box plant in Chicago.

As part of its expansion and improvement program, **Oxford Paper Co.**, New York, will construct a modern design chemical coagulation, filtration and clear water storage plant at its Rumford mill.

The Tele-Sonic Packaging Corp. is now located in new quarters at 208 W. 27 St., New York 1.

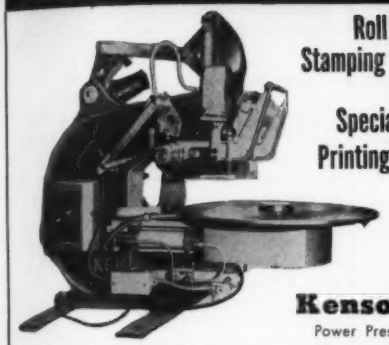
Ed Burgers, Jr., formerly sales representative for the **Kraft Bag Corp.** in St. Louis, has been appointed to sales promotion manager for the company, with headquarters at 630 Fifth Ave., New York.

Packaging Industries Ltd., Inc., Montclair, N. J., has appointed **Edward C. Griepenkerl** as sales manager. He replaces **George Chisholm**, who has resigned.

Polypane Products Co., Inc., has moved to new quarters at 8003-05 Roosevelt Blvd., Philadelphia 15, Pa.

Plans for building a commercial plant for the production of plastics have been announced by Societe des Usines

KENSOL MARKING EQUIPMENT



Roll Leaf Stamping Equipment

•

Specialty Ink Printing Presses

Kensol 35 T-20

Power Press with Turntable

- Single and Multi Color Roll Leaf Stamping and Ink Printing Equipment.
- Fine, Uniform Quality Marking on Plastic Cosmetic and Food Containers, Fancy Boxes of All Materials, Jewelry Box Satins, etc.
- Equipment Available to meet any Production Requirement from Hand Operated to Fully Automatic.

Send for Bulletin E-9

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124-132 WHITE STREET • NEW YORK 13, N. Y.

Specialists in Quality Marking Equipment and Supplies

HAMMER BRAND

TRADE MARK REG. U.S. PAT. OFF

TAILOR MADE PAPERS FOR PROTECTIVE PACKAGING

Glassine Greaseproof

Single Ply

PLAIN • WAXED • TREATED • COATED

Duplex • Triplex

WAX LAMINATED • GLUE MOUNTED

to Glassine • Foil • Kraft • Sulphite

Super Transparent Glassine

Silver White in 22-25 lb.

NON-PLASTIC FOR WINDOW ENVELOPES

PLASTICIZED FOR GREASE RESISTANT BAGS

"79 years of service"

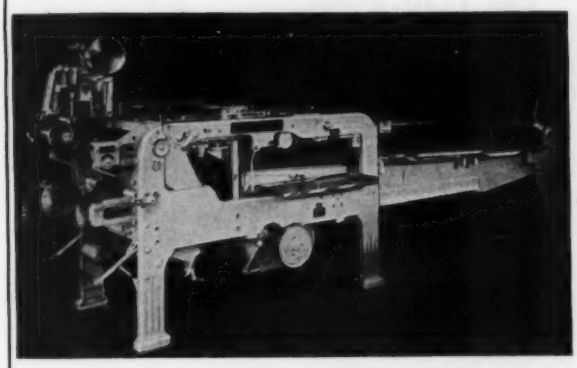
THE HAMERSLEY MFG. CO. PAPERMAKERS

GARFIELD, NEW JERSEY

The versatile "OLIVER" wraps and labels products to give you the finest package for your dollar!

An "Oliver" handles a surprising wide range of package sizes. Its one-man operation and quick-adjustability speed production.

Paper specialties, textiles, baked goods, meats, and products only remotely similar . . . the Oliver wraps them securely, neatly, rapidly. Using modern packaging materials it heat- or glue-seals your package for utmost protection. A smart diecut label can be heat-sealed to the package. The quick-adjustability of the Oliver keeps the unit cost low. Each of 7 models handles packages in a wide range of sizes at speeds up to 50 a minute. Printed wrappers are registered by an electric eye. The many Oliver features — plus the Roll-Type Labeling System — save you dollars every day. Write now for complete details.



"Oliver" Wrapping Machine

with Automatic Roll-Type Labeling System

OLIVER MACHINERY COMPANY · GRAND RAPIDS 2, MICH.

Matchless Achievements in Packaging

Every year Oneida sets a new high in quality packaging. And every year Oneida-packaged products win new sales peaks. Today, choose Oneida quality for your product—the highest achievement in packaging. Check Oneida now.

Oneida paper products, inc.

10 Clifton Boulevard, Clifton, New Jersey
Los Angeles, Calif. • Baltimore, Md. • Centralia, Ill.

CONVERTERS and COLOR PRINTERS of Quality Packaging from: Glassine, Cellophane, Polyethylene, Vinyls, Parchment, Sulphite, Foil, Kraft, Waxed, Coated and Laminated Materials.

VERSATILE 4 VALVE FILLER

ELGIN "QUAD"

For Liquid and Viscous Products

Ideal for glass or tin containers, the Elgin "Quad" is the highspeed, accurate producer—easily and quickly adjusted for fill, and speed! The piston stroke which governs fill in all 4 valves is easily controlled by a single micrometer screw adjusting handle. The upper table assembly is quickly adapted to all container heights by a single hand wheel.

You reduce air pockets and foam to an absolute minimum with the Elgin "Quad" bottom fill. The "Quad" is a proven success with light or heavy packs—is easy to clean—and earns its versatile way with trouble-free deliveries.

Write for complete literature Address Dept. M65

PACKAGING MACHINERY MANUFACTURERS INSTITUTE PMMI

ELGIN MANUFACTURING COMPANY
200 Brook Street, Elgin, Illinois

Plants and people

Chimiques Rhone-Poulenc, Etablissements Kuhlmann and **Compagnie Francaise de Raffinage (C.F.R.).** These French firms will work together under a license recently granted by **Phillips Petroleum Co.** to Rhone-Poulenc for the exclusive use in France of the Phillips process for making rigid polyethylene. The plant will be adjacent to the C.F.R. Refinery of Gonfreville near Le Havre, Normandie.

William H. Keener has been named special representative for the executive sales division of **Reynolds Metals Co.**, with headquarters in the World Center Bldg., Washington, D. C.

George J. Stickley, sales manager for **Ernest Payne Corp.,** New York specialists in printing machinery, has been appointed vice president of the firm.

Robert M. Lawrence, vice president and general sales manager of the **Forbes Lithograph Mfg. Co.,** Boston, has been appointed to the company's board of directors. **Chester R. Burchsted** has joined the New York sales staff on a full-time basis. **Charles S. Trefrey, Jr.,** has replaced Mr. Burchsted as administrative assistant for the New York office.

The Western District sales office of **DuPont** company's "Kinetic" Chemicals Division has been moved to 533 Cowper St., Palo Alto, Calif. A plant for the manufacture of "Freon" compounds is now under construction at Antioch, Calif.

Ivan E. Howard, former district manager of the Cleveland regional office of **Lamson Mobilift Corp.,** Portland, Ore., has been promoted to general service manager for the firm.

Paul W. Baker has been named special products representative for the Charlotte, N. C., office of the **Lassiter Corp.,** package converters. **Martin F. Naughton** has been named sales representative for the New York office.

Pack-It, Newark, N. J., contract packaging firm, has announced the installation of a Fry bag sealer and an additional Stokes & Smith E.G.-1 powder filler.

Lawrence K. Marsh has been named sales representative for **Tee-Pak, Inc.,** Chicago, manufacturers of cellulose meat casings. He will cover Colorado, Utah, Nebraska and South Dakota.

Ground will be broken in July in Danville, Ill., for a new multi-million dollar branch plant for Tee-Pak. About 300 persons will be employed in the new plant, scheduled for completion next year.

The Helene Curtis Industries, Inc., has purchased **Jules Montenier, Inc.,** Chicago, one of the pioneer users of

squeeze bottles and manufacturer of Stopette and other toiletries. **Dr. Jules Montenier**, president of the purchased company, will join the Helene Curtis organization.

William P. Bacon has joined the sales staff of the New York office of **Westfield River Paper Co.**, Russell, Mass., and **C. L. Reece** has become company representative for the New England area.

The Kendall Co., Chicago, is planning to erect a new million-dollar plant for the manufacture of its Polyken pressure-sensitive industrial tape and protective tape coatings for metal pipes, on a 76-acre site in Franklin, Ky. The initial unit of the plant will provide 35,000 sq. ft. of floor space, which will more than triple present production capacity for Polyken.

American Plastics Corp., New York, has announced that it plans to expand its plant area and production facilities at Bainbridge, N. Y. by 50%, following an increase of 100% during the past eight months.

Wiley J. Pickett has been appointed to the technical sales staff of **The Pennsylvania Salt Mfg. Co.**, Philadelphia, to direct the introduction of the company's new line of aerosol propellants. The products will be manufactured in a new plant at Calvert City, Ky., slated for completion late this year.

Oxford Paper Co., New York, has elected **Rex W. Hovey**, formerly executive vice president, vice chairman of the board and a member of the board of the Rumford Falls Power Co., a wholly owned subsidiary of Oxford Paper. At the same time, **William H. Chisholm** was elected president of the company. Mr. Chisholm, who is the son of **Hugh J. Chisholm**, chairman of the board, was formerly vice president.

Paul H. Roberts has been named vice president in charge of central sales by **The Hinde & Dauch Paper Co.**, Sandusky, Ohio. He will supervise the sale of products made in the company's plants in Sandusky, Detroit and Eaton, Ohio.

Field Paper Box Co., Chicago, has purchased the **Terre Paper Box Co.** and merged it with the two Field plants in a single large set-up and folding box factory at 1740 N. Pulaski Rd.

A consolidated New England sales office has been opened at Riverdale St, Northbridge, Mass., for **Kupfer Bros. Co.** and **The Miami Valley Coated Paper Co.**, New York. The new office will be staffed by **John Ernst**, formerly of the company's Midwest sales staff, and **E. F. Deignan** of the New England staff.

Eugene Worthen has joined the creative staff of **Herbert H. Hooper, Inc.**, Pasadena, Calif., makers of point-of-sale displays.

An eight-color, heavy-duty rotogravure press, reported to be the first used in the commercial printing industry, has gone into service for **The Specialty Papers Co.** at Dayton, Ohio. The press, built and installed by the **Kidder Press Co.**, Dover, N. H., prints all eight colors at speeds up to 1,000 ft. per minute.

Donald F. Cooke, formerly with the Olin Film Division, has joined the **Unit-Packet Co.**, Wilmington, Mass.

J. M. Huber Corp., Hillside, N. J., has named **Thomas Punshon**, formerly manager of laboratories, technical director of its Ink Division. **Douglas Campbell**, formerly assistant production engineer, has become production manager, and **Claude Geffken** has been appointed laboratory manager.

Irwin D. Wolf, president of **Kaufmann Department Stores**, Pittsburgh, Pa., died on April 18 after an illness of several months. He was 61. Mr. Wolf was widely known as a pioneer advocate of packaging in the department-store field. He was active in the early days of the Packaging Division of the American Management Assn. and for some years sponsored the Irwin D. Wolf Award in connection with a packaging competition conducted by AMA.

Alfred A. Halden, executive vice president and director of **National Starch Products, Inc.**, died recently at his home in New York City at the age of 61. Mr. Halden joined the staff of National Starch in 1919. He was a member of the American Chemical Society, Trustee of the Corn Industries Research Foundation and a director of the Adhesives Assn. of America.

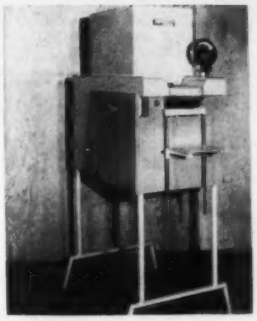
Halden

Chester H. Pope, founder and president of **Pope & Gray, Inc.**, printing and lithographic ink manufacturers, died in Summit, N. J., on March 6 of a heart ailment. He was 70 years old. The New York Printing Ink Production Club honored Mr. Pope in 1954 with the award of Master Ink Technologist. He served on the Board of Arbitration for the printing industry in New York City and taught courses in lithography at the New York Trade School.

Two long-time employees of the **Gaylord Container Corp., Division of Crown Zellerbach Corp.**, died recently. **Ben M. Williams**, manager of sales promotion for Gaylord, died on March 23 at the age of 73. He had been with Gaylord for 32 years. Mr. Williams was affectionately known throughout the industry as Uncle Ben. **George E. Washburn**, for many years manager of Gaylord's Los Angeles office, died on March 22 at the age of 66. Mr. Washburn joined the firm in 1923 and was well known to Southern California manufacturers and shippers.

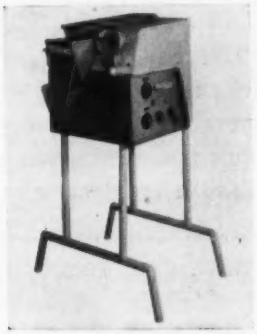
Charles J. Schroeder, production manager of the **Clopay Corp.**, Cincinnati, Ohio, died suddenly on March 21 at the age of 43. He had been employed by Clopay for 21 years.

TRESCOTT



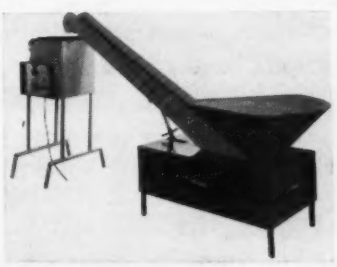
TRESCOMATIC Model C

Capacity 8 oz. to 30 lbs.
Speeds to 15 weighings per minute.
Accuracy to 1/4 of ounce. Belt Feed—2 speeds. Automatic, Semi-automatic or manual operation. Check weigh on machine weighs powder, pellets, ground and crushed items, sliced fruits, French Fried potatoes, sliced pickles, etc.



TRESCOMATIC Model B

Vibratory Feed. Electronic Controls. Capacity 1 oz. to 6 pounds. Speeds to 25 weighings per min. Accuracy to 1/16 of ounce. Check weigh on machine. Two speed control. Handles Small Parts, Nuts, Screws, Bolts, Powders, Pellets, semi-solids, etc. Automatic, Semi-automatic or Manual Control.



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Write for full information and demonstration.

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What's label paper doing in a bathtub?

You might wonder. But a nationally-famous, mid-western manufacturer of bath-tubs doesn't. Label paper in his bath-tubs earns him thousands of additional sales.

During installation bath-tubs are subjected to some pretty rough treatment . . . Workmen throw tools in them, stand in them and, in general, abuse them.

This results in scratching or chipping of the extremely brittle porcelain on the tub. A McLaurin-Jones paper merchant heard of this problem. He went to the mid-western bath-tub manufacturer and suggested he line the tub with a protective paper.

We recommended a special printed label paper with a water soluble gumming. After the tub is installed, and ready for use, filling the tub with water "soaks off" the protective paper lining.

To date we've sold this mid-western manufacturer a lot of this M-J special label paper with water soluble gumming. He's sold a raft of bath-tubs because he offers builders the protection of the paper lining, with the simplicity of "soak off" removal.

The sign of the most complete label line! . . .

You may not be interested in plumbers or bath-tubs. But you are interested in a label paper that answers your specific printing or packaging need.

You know, from experience, that a label is no better than the paper on which it's printed. McLaurin-Jones offers you over 100 years of experience gumming and coating paper *plus* the most complete line of label papers in the country.

Whatever your label problem in printing or packaging, we welcome the challenge to meet it and solve it.

Remember a label is no better than the paper on which it's printed . . . specify M-J label paper and you start with the *best!*

McLAURIN-JONES COMPANY
MILLS: Brookfield & Ware, Mass. Homer, La.
OFFICES: New York, Chicago, Cincinnati, Los Angeles

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EQUIPMENT • SUPPLIES • SERVICES

SLIDE RULE FOR COMPARING FILMS. Slide rule-type comparator makes it easy to ascertain costs and properties of "Mylar" polyester film and seven other film materials. E. I. duPont de Nemours & Company, Inc. (E-651)

HOW TO ENGINEER CORRUGATED SHIPPING BOXES. 20-page booklet shows how this company develops and tests corrugated shipping boxes for specific products. Hinde and Dauch. (E-652)

POLYETHYLENE COATED PROTECTIVE PAPER. Illustrated literature describes a new protective paper made of black polyethylene laminated or coated to kraft said to provide superior protection from weathering and light rays. Thilmany Pulp & Paper Company. (E-653)

WEIGHING, FILLING AND PACKAGING EQUIPMENT. 28-page illustrated booklet describes and lists specifications of company's full line of automatic and semi-automatic equipment for weighing and filling, stamp application and cellophane wrapping. Wright Machinery Company. (E-654)

HEAT SEAL COATINGS AND ADHESIVES. Technical bulletin describes a line of heat seal coatings and adhesives, suitable for use with a wide variety of flexible packaging materials. Data is provided on formulations and applications, properties. Chemical Division, General Mills. (E-655)

BUTTER PACKAGING MACHINE. Illustrated brochure describes and lists specifications for company's line of machines that automatically print, wrap, carton and overwrap butter, margarine and similar products. Lynch Corporation. (E-656)

STATIC ELIMINATOR FOR WEB PROCESSING. 8-page illustrated bulletin gives technical information on an induction-type electrostatic neutralizer bar for web-processing machinery that features safety even when inflammable vapors are present. Herman H. Sticht Company, Inc. (E-657)

LABELS FOR PACKAGED MEATS. Literature describes, lists prices for company's line of full color heat-seal labels for film-packaged meats. Full-size, full color samples are included. Paramount Paper Products Company. (E-658)

LABELERS FOR CANS AND BOTTLES. Illustrated folder describes operation, special features, and advantages of company's line of labelers for cans, bottles, jars and pails. Specifications and capacities listed. Standard-Knapp Division, Emhart Manufacturing Company. (E-659)

HEAT SEAL PACKET PAPERS. Illustrated literature describes company's "Sayv" heat seal papers for bags, envelopes and packets designed for use on high speed unit packaging machines. Stock types are described, samples are offered. Nashua Corporation. (E-660)

WRAPPING MACHINES. Illustrated folder lists specifications of line of 16 special-purpose wrapping machines, designed for wrapping containers and such products as crackers, soap bars, macaroni, cube sugar, cigars. Fr. Hesser. (E-661)

AUTOMATIC LUBRICATION SYSTEM. Illustrated brochure describes design and performance of custom-engineered automatic metered lubrication system for machinery; the system consisting basically of a control pump, a tubing distribution system, and meter-units at each bearing. Bijur Lubricating Corporation. (E-662)

COLORANTS FOR PLASTIC PACKAGES. Illustrated brochure describes two types of color concentrates in resin form, suitable for blending with thermoplastic compounds used to produce plastic packages by injecting molding and extrusion. Westchester Plastics, Inc. (E-663)

FILM BAGS, LINERS, AND COVERS. 18-page illustrated booklet describes company's line of leakproof plastic film liners for drums, pails, cartons and bags. Methods of use, application data, sizes and film properties are covered. Protective Lining Corporation. (E-664)

RIGID LEAKPROOF PLASTIC CONTAINERS. Illustrated literature describes and lists stock sizes and shapes for company's line of jar-type transparent plastic containers with patented leakproof closures. Buckeye Molding Company. (E-665)

ELECTRIC RADIANT HEATERS. Illustrated literature lists specifications and prices, gives detailed description of "Chromalox" electric radiant heaters, suitable for such uses as ink drying, plastics forming, drying paper and film stocks, static eliminator. Edwin L. Wiegand Company. (E-666)

SMALL BOX PREFOLD GLUER. Illustrated literature provides specifications, floor plan and detailed description of company's "Model 6F-X" 180° balanced prefold gluer, designed specifically for handling small boxes. International Paper Box Machine Company. (E-667)

WATER-RESISTANT LABEL ADHESIVE. Technical bulletin describes glue designed for labeling bottles subjected to wet storage; gives description and properties, and lists standard quantities and prices. Paisley Products Incorporated. (E-668)

LABELING MACHINE. Illustrated brochure lists specifications and describes company's "Pony Labelrite" machine that applies labels to regular-shape and odd-shape containers over a wide range of container sizes. New Jersey Machine Corporation. (E-669)

AUTOMATIC WEB TENSION CONTROL. Illustrated literature gives performance curves and data on company's "Model CF-40" automatic web tension control for use with most types of winding or unwinding equipment. Web Controls Corporation. (E-670)

HARDWARE PACKAGING MACHINERY. Illustrated literature presents company's line of vibratory-feed machines that package small hardware items in pre-formed envelopes or heat sealed packets. Brown Bag Filling Machine Company, Inc. (E-671)

AUTOMATIC IMPRINTING MACHINE. Sheet describes features of "Model 91-B" fully automatic imprinting machine for code printing bottom surfaces of such container types as aerosol cans, jars, and "F" type containers. American Marking Corp. (E-672)

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EQUIPMENT • SUPPLIES • SERVICES

ANILINE PRINTER. Folder illustrates and describes features of high-speed aniline printing press. Schematics and text describe press accessories: slitter and rewinder, slitter and differential rewinder, punch unit and rewinder. Beasley French & Company, Ltd. (E-673)

EDGE POSITION CONTROL FOR WEBS. Illustrated bulletin describes company's edge position control device, applicable to any web guiding job. Principles of operation and installation data are provided. Models for medium, heavy and extra-heavy duty are described. Askania Regulator Company. (E-674)

PARAFFIN COATING MACHINE. Sheet gives description of paraffin coating machine for strip coating of sheet material, with capacity from 2 to 70 inches. H & W Machinery Corp. (E-675)

ADVERTISING VALUE OF SHIPPING CARTONS. Illustrated brochure presents survey-revealed facts and figures that measure the advertising value of surface decoration on shipping containers. Also describes company's container design services. Stone Container Corp. (E-676)

METAL-END FIBRE CANS. 8-page booklet illustrates and gives specifications for company's line of metal-end fibre cans, available in round and oblong shapes with various liners and wraps, of either standard or custom design. R. C. Can Co. (E-677)

WOODEN PARTITIONS FOR PACKAGES. Illustrated folder describes applications for such custom-shaped wooden container components as partitions, slots, grooves, trays, platforms. Hill Manufacturing Co., Inc. (E-678)

AUTOMATIC HEAVY DUTY BULK SCALES. Illustrated bulletin describes in detail company's "Class 38" automatic bulk weighing scales, designed to handle dry, ground, granular, dusty and non-free flowing materials. Richardson Scale Co. (E-679)

CATALOG OF PRESSURE-SENSITIVE TAPES. 25-page illustrated catalog provides data on properties, specifications and applications for company's complete line of pressure-sensitive tapes. Behr-Manning, Division of Norton Company. (E-680)

OFFSET PREVENTION SPRAYER. Illustrated folder describes, gives specifications for company's "Oxy-Dry" sprayer, an offset prevention device designed for use with offset presses 17 x 22 inches and up. Oxy-Dry Sprayer Corporation. (E-681)

GUMMED PRINTING PAPERS. 12-page manual describes and lists stock sizes and grades of "Trojan" gummed printing papers, and gives information on paper selection, humidity and temperature considerations, and on handling and printing procedures. Gummed Products Company. (E-682)

AUTOMATIC PAPER BOX MACHINE. Illustrated brochure gives specifications and floor plan for the "Stokesmatic" fully automatic paper box machine that combines the operations of stayer, gluing and registering unit, feeder and wrapper into one machine. Stokes & Smith Company. (E-683)

PLASTIC PACKAGES FOR FOOD INDUSTRY. Illustrated literature shows line of transparent rigid plastic latticework baskets and transparent rigid plastic tubular containers for fruits, vegetables and similarly shaped products. Sizes and capacities are given. Gilbert Plastics, Inc. (E-684)

CONTRACT PACKAGING OF AEROSOLS. Illustrated brochure describes facilities and services offered by large New Jersey manufacturing chemists and contract packagers of aerosol and liquid products. Fluid Chemical Co. (E-685)

CAN MAKING MACHINERY. 16-page illustrated catalog presents detailed information on line of can bodymakers, power formers, and horn and seaming presses. Specifications are listed. E. W. Bliss Co. (E-686)

HOW TO USE ACETATE FIBRE TAPES. Illustrated brochure describes many specific industrial uses for "Scotch" pressure-sensitive acetate fibre tapes, including sealing, bundling and protecting. Physical property ratings for various types are given. Minnesota Mining and Mfg. Co. (E-687)

PRINTING PRESSES. 24-page illustrated catalog describes web fed, flat bed letterpress and an extensive line of attachments for such special purposes as scoring, slitting, numbering, die cutting. New Era Manufacturing Co. (E-688)

MANUAL ON PACKAGE DESIGN AND PRODUCTION. 32-page, full-color manual covers basic design and printing of package wraps. Also suggests procedures in packaging with flexible protective coated papers. The KVP Co. (E-689)

GUMMED TAPE SAMPLES. File-size folder contains extensive assortment of plain and printed gummed paper tapes in a variety of stock dimensions, weights, and colors. McLaurin-Jones Co. (E-690)

GLASS AEROSOL CONTAINERS. Illustrated brochure describes design and special features of plastic-coated, explosion-proof glass container suitable for pressure loading. Includes discussion of bottle construction and valve design. Wheaton Plastics Co. (E-691)

SHORT CASE SEALER. Illustrated folder describes a short case sealer that applies glue at predetermined spots. Discusses features and gives specifications and floor plan. J. L. Ferguson Co. (E-692)

MARKING EQUIPMENT. Descriptive booklet describes scope of company's operations in the marking and stamping field. Discusses company's stamping presses and attachments. Booklet is attractively gold stamped on cover. Peerless Roll Leaf Co. (E-693)

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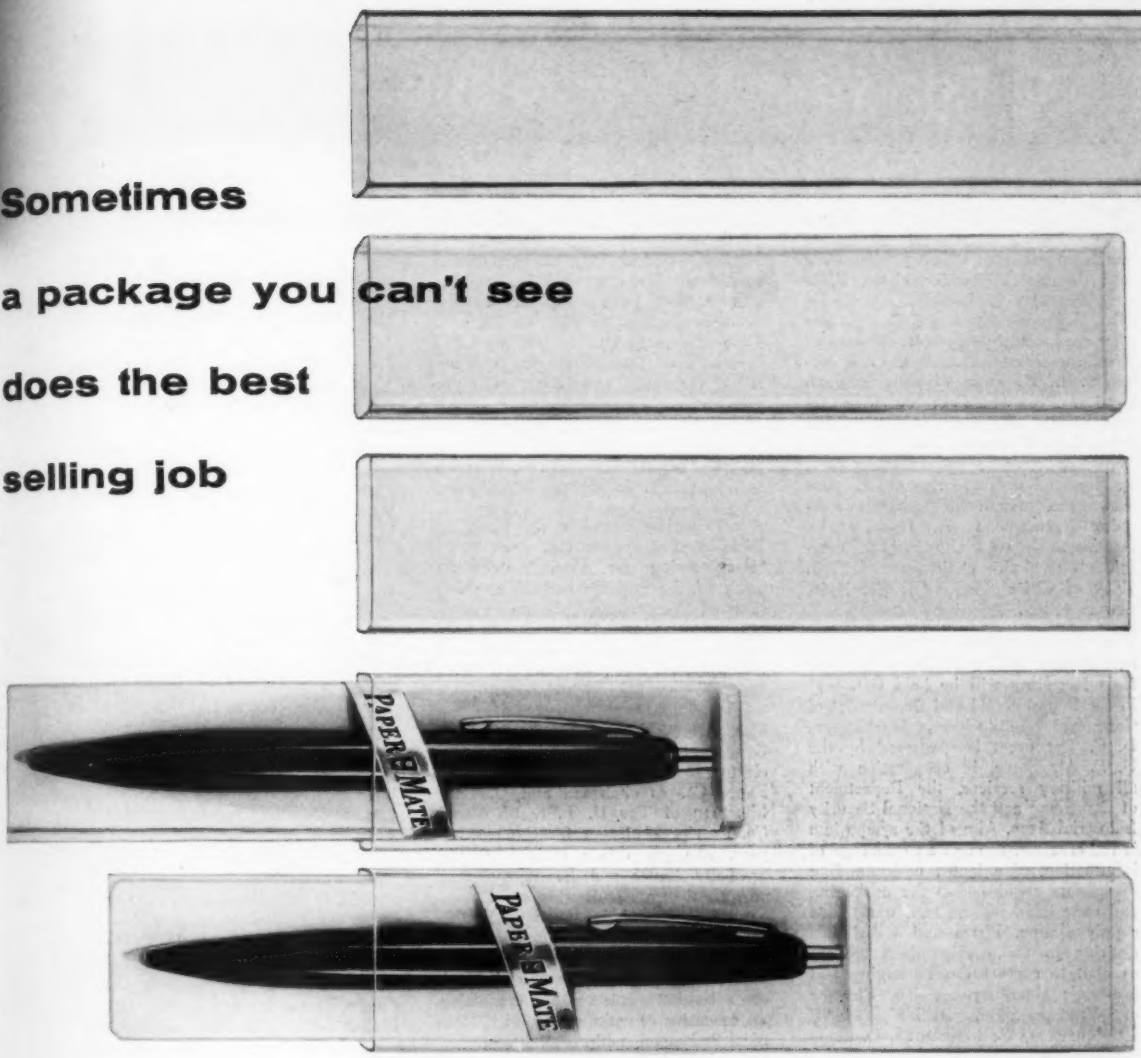
Sometimes a package you can't see does the best selling job



Ball point pens made by Paper-Mate Manufacturing Co., Culver City, Calif. Butyrate sleeves extruded by Jet Specialties Co., Los Angeles.

Virtually invisible, square tubular sleeves of clear Tenite Butyrate are hard to beat when you have a colorful product to package and display. Take Paper-Mate pens, for example. Their handsome Tu-Tone barrels and caps (also made of Tenite Butyrate) have tremendous eye-appeal in themselves. Therefore, a package was needed that would display as well as protect them.

Sleevings extruded of Tenite Butyrate proved to be the answer. Sturdy and tight-fitting enough to protect the pens from dust and rough handling, the sleeves may nevertheless be pushed back easily to inspect the contents. Yet, even when closed, the transparent Butyrate lets the Paper-Mate pen colors shine through and attract customers.

Two other Eastman plastics — Tenite Acetate and Tenite Polyethylene — supplement Tenite Butyrate to provide packaging people with a wide choice of excellent materials. All three can be extruded or molded into just about any shape imaginable, and are available in all colors.

Now's the time to find out more about Tenite packaging materials and what they can do for you. Write to EASTMAN CHEMICAL PRODUCTS, INC., subsidiary of Eastman Kodak Company, KINGSPORT, TENNESSEE.

Information regarding Tenite also can be obtained from local representatives listed under "Plastics-Tenite" in the classified telephone directories of the following cities: Atlanta, Chicago, Cleveland, Dayton, Detroit, Houston, Leominster (Mass.), Los Angeles, New York City, Portland (Ore.), Rochester (N. Y.), St. Louis, San Francisco, Seattle, and Toronto—elsewhere throughout the world, from Eastman Kodak Company affiliates and distributors.

TENITE

ACETATE • BUTYRATE • POLYETHYLENE

Eastman plastics for packaging

For your information

The Packaging Institute has named **Carl Burnside** of Eli Lilly & Co. as chairman of the industry-wide Drug and Pharmaceutical Committee. **Richard Hennessy** of Lederle Laboratories Div., American Cyanamid Co., is now vice chairman, while **Oscar Norris** of Winthrop-Stearns, Inc., is the new secretary. **L. H. Zahn** of Ciba Pharmaceutical Products, Inc., has been appointed vice chairman of the Technical Operations Committee, the governing body of PI's technical committee. **F. Norton Landon** of Sun Oil Co. was named chairman of the Petroleum Packaging Committee. **H. A. Mayor, Jr.**, of Southwest Grease & Oil Co. is the committee's new vice chairman and **F. J. Beck** of Cities Service Oil Co. is its new secretary.

The Second Joint Military-Industry Symposium on Packaging and Materials Handling will be held Oct. 9-11 in the Departmental and Department of Commerce Auditoriums, Washington, D. C. The event is sponsored by the U. S. Air Force, in cooperation with all military services, the Department of Commerce and the National Security Industrial Assn. Aim of the symposium is the creation, through an exchange of information, of a better understanding of military requirements for packaging and materials handling in a world-wide supply system. Firms and individuals desiring to make suggestions are requested to contact the Packaging and Materials Handling Division, Director of Transportation, DCS/M, USAF Headquarters, Washington 25, D. C.

The Seventh National Plastics Exposition and Conference, sponsored by **The Society of the Plastics Industry, Inc.**, will be held June 11-15 at New York City's new Coliseum. With more than 225 companies taking part in the show and concurrent conference, the event is expected to top all previous plastics shows. Conference sessions will be held at the Hotel Commodore each morning during the period of the show. The event is under the management of **Clapp & Poliak, Inc.**, exposition managers, New York.

The Business and Defense Services Administration, **U. S. Dept. of Commerce** has published a summary of information on Fibrous Glass Reinforced Plastic Containers, dated March, 1956. This Business Service Bulletin 143, prepared by **Charles H. Pearce** of the Containers and Packaging Division, points out salient facts and sources of information helpful in planning manufacturing, marketing and packaging programs involving fibrous glass reinforced plastic containers. Copies are on sale by the U. S. Dept. of Commerce, Washington 25, D. C., at 10 cents each.

Dr. Bernard E. Proctor, head of the Food Technology Dept., Massachusetts Institute of Technology, has been named the Appert Medalist for 1956. The **Appert Award**, given each year by the Chicago Section of **The Institute of Food Technologists** to one who has distinguished himself by his contributions to food technology, will be presented to Dr. Proctor at the 16th annual meeting of IFT, to be held in St. Louis, June 10-14. Dr. Proctor is author of several technical articles which have appeared in MODERN PACKAGING.

A new booklet issued by the Chemical Division of **Koppers Co., Inc.**, titled "Imagineering for Profit," describes many of the possible end-use applications of the company's Dylite expandable polystyrene. Copies of this 12-page Bulletin C-6-226 may be requested from the Chemical Div., Koppers Co., Inc., 1301 Koppers Bldg., Pittsburgh 19.

The Polyethylene Extrusion Coaters Group at its recent annual meeting elected **Donald McBride** of the Lowe Paper Co. as chairman and **C. Carr Sherman** of The H. P. Smith Paper Co. as vice chairman for the ensuing year. The group is a division of the Specialty Paper and Board Affiliates, comprised of a membership of 17 companies associated in the manufacture of polyethylene extrusion and coating. The group is being formally re-organized to improve the efficiency of its various activities. Plans call for organizing an executive committee, publicity, technical and membership committees.

More than 2,000 people attended the **Packaging Assn. of Canada's** recent **1956 National Packaging Convention.** The convention featured 56 speakers, who contributed to making the event one of the most outstanding programs ever sponsored by the association. Highlights of the convention were the Packaging Equipment Marketing Forum, the 4th Canadian Package Design Forum, the 3rd National TIPAC Forum, the Bulk Packaging Forum and a special program sponsored by the Canadian Point-of-Purchase Advertising Institute. Awards were presented to the winners of the PAC national packaging competition and all entries were on display during the convention.

Harrison J. Daysh has been appointed industrial relations secretary of the **American Paper & Pulp Assn.** Mr. Daysh fills the vacancy left by the resignation of **George V. Johnson**, who is now secretary-treasurer of the Specialty Paper & Board Affiliates.

The 1956 committee chairmanships for the **Waxed Paper Institute** and **Waxed**

What's doing

May 10-12—**Lithographers National Assn.**, annual convention, Drake, Chicago.

May 13-18—**New York Stationery Show**, New Yorker, New York.

May 14-16—**Biscuit & Cracker Mfrs. Assn.** and **Independent Biscuit Mfrs. Co., Inc.**, Plaza, New York.

May 14-17—**American Society of Mechanical Engineers**, Design Engineering Conference and First Design Engineering Show, Convention Hall, Philadelphia.

May 15-17—**Toilet Goods Assn.**, annual convention, Waldorf-Astoria, New York.

May 16-19—**National Paper Box Mfrs. Assn.**, annual meeting, Mark Hopkins Hotel, San Francisco.

May 18-25—**Southeastern International Industrial Exposition**, Atlanta, Ga.

May 20-21—**National Fibre Can & Tube Assn.**, annual meeting, Park Plaza Hotel, St. Louis, Mo.

May 20-22—**Chemical Specialties Mfrs. Assn.**, Drake, Chicago.

May 21-25—**41st National Conference on Weights and Measures**, National Bureau of Standards, Washington, D. C.

May 22-23—**National Flexible Packaging Assn.**, spring meeting for converters, Edgewater Beach, Chicago.

May 23-25—**American Management Assn.**, General Management Conference, Roosevelt, New York.

June 4-7—**Material Handling Institute**, Public Auditorium, Cleveland, Ohio.

June 6-8—**American Society for Quality Control**, annual convention, Le Palais de Commerce, Montreal.

June 10-14—**Institute of Food Technologists**, annual meeting, Jefferson, St. Louis, Mo.

June 10-14—**National Assn. of Retail Grocers**, Shrine Auditorium, Los Angeles.

June 10-14—**National Confectioners Assn.**, convention and exposition, Statler, Boston.

June 11-12—**American Management Assn.**, Special Manufacturing Conference, Statler, New York.

June 11-13—**Advertising Trades Institute**, 3rd National Sales Aid Show, Statler, New York.

June 11-15—**The Society of the Plastics Industry**, exposition and conference, Coliseum, New York.

June 17-22—**American Society for Testing Materials**, annual meeting and apparatus exhibit, Chalfonte-Haddon Hall, Atlantic City.

June 18-20—**Grocery Mfrs. of America**, Greenbrier, White Sulphur Springs, Va.

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PRECISION is proud to present the latest in its line of superior quality aerosol valves . . . the aerosol bottle valve. Time-tested and of the same high production standards, it invites your inquiry to enable our staff of aerosol valve technicians to work cooperatively in satisfying your requirements.

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UNIT PACKET SERVICE
FOR MORE OF YOUR CUSTOMERS

Packet Packaging for Your Granular, Powdered and Liquid Products

SHAKER PACKETS for DRY PRODUCTS
Capacities:
1 to 8 grams

LIQUID PACKETS for all SINGLE SERVICE CAPACITIES

Additional plant facilities now permit extending use of these unit packets. We can now offer sizes and styles for granular and powdered products beyond accepted popular uses for salt, pepper, sugar, spices and drugs. Unit packets are also available for liquids beyond accepted popular uses for syrups, sauces, jams, mustards and ketchup.

Send sample of your product for packet packaging recommendations or write for samples indicating products to be packaged.

UNIT PACKET COMPANY
Wilmington, Massachusetts

For your Information

Paper Merchandising Council have been announced. **Stanley Ellis** of Marathon Corp. has been elected chairman of the Advertising Committee of the Council. **Morris Kane** of Kalamazoo Vegetable Parchment Co. is chairman of the Technical and Standards Committee of both groups.

Thomas J. Burke has retired as secretary-treasurer of the **Sulphite Paper Mfrs. Assn., Inc.**, and the **Glassine & Greaseproof Mfrs. Assn.** He will continue, however, as secretary-treasurer of the **Vegetable Parchment Mfrs. Assn. Charles H. Leach** succeeds Mr. Burke as secretary-treasurer of the Sulphite Paper Mfrs. Assn. and the Glassine & Greaseproof Mfrs. Assn. Mr. Burke has served more than 35 years as secretary-treasurer of associations in the pulp and paper field.

Burke

Plans for the annual meeting of the **Institute of Food Technologists**, to be held in St. Louis, June 10-14, have been completed by **C. M. Harrold** of the Charles M. Harrold Co. and **Dr. R. J. Sumner** of Anheuser-Busch, Inc., who are jointly heading up the proceedings. Some 140 technical papers will be read by leading food technologists.

The American Society for Testing Materials has just completed its 1955 Book of ASTM Standards. This edition, the largest ever, is available in seven parts: Part 1—Ferrous Metals (315 Standards; price, $13.50); Part 2—Non-Ferrous Metals (270 Standards; price, $11); Part 3—Cement, Concrete, Ceramics, Thermal Insulation, Road Materials, Waterproofing and Soils (477 Standards; $13.50); Part 4—Paint, Naval Stores, Wood Cellulose, Wax Polishes, Sandwich Building Constructions (323 Standards; price, $11); Part 5—Fuels, Petroleum, Aromatic Hydrocarbons and Engine Antifreezes (242 Standards; price, $11); Part 6—Electrical Insulation, Electronic Materials, Plastic and Rubber (300 Standards; price, $13); Part 7—Textiles, Soap, Water, Paper, Adhesives and Shipping Containers (354 Standards, price, $11). The complete set, priced at $84, or any of the parts may be ordered from the American Society for Testing Materials Headquarters, 1916 Race St., Philadelphia.

Wilbur Rabinowitz of J. Rabinowitz & Sons has been elected president of the **National Assn. of Glass Container Distributors. Victor Wasserman** of Twin City Bottle Co. has been named vice president; **Ben Jacob** of M. Jacob & Sons, treasurer, and **Sheldon Berman** of Continental Glass Co., secretary.

Host companies at the annual meeting of the **National Fibre Can & Tube Assn.**, to be held May 20-21 at the Park Plaza Hotel, St. Louis, Mo., are the **Sefton Fibre Can Co., R. C. Can Co.** and **Ever-Ready Tube & Can Co.** Visits to these plants will be part of the three-day program.

Three reports of Armed Forces research in packaging and materials handling have recently been released to industry through the Office of Technical Services, U. S. Dept. of Commerce: (1) Evaluation and Development of Closures for Five Gallon Containers (PB 111804, priced at $2.75); (2) Cube Efficiencies of Nested and Non-Nested Cylindrical Containers, Interim Report No. 1 (PB 111754, priced at $1.25); (3) Package Safety Test for Volatile Corrosion Inhibitors (PB 111848, priced at $1.75). Copies of the reports are available on order to OTS, U. S. Dept. of Commerce, Washington 25, D. C.

Eastman Chemical Products, Inc., has published a brochure for formulators and manufacturers of wax-containing products, suggesting a wide range of possible applications for the company's new Epolene line of polyethylene waxes. Physical properties of the two types of Epolene are listed, together with tables of their compatibility with other waxes, resins and dyes. Formulations and formulation procedures are also documented. For copies of the booklet, "Epolene Eastman Polyethylene Waxes," write to Eastman Chemical Products, Inc., Kingsport, Tenn.

Stephen W. Vasquez, dean of the School of Commerce and Finance of St. Louis University, has been named coordinator of the annual technical short course that will be conducted by the university for the **Society of Industrial Packaging & Materials Handling Engineers** in St. Louis next Oct. 22-25, at the Kiel Auditorium, in conjunction with the annual **Protective Packaging & Materials Handling Competition and Exposition.**

Vasquez

A new edition of the **F. B. Redington Co.'s** complete catalog, titled "Automatic Machines for Cartoning, Wrapping, Special Packaging," is now available. This 40-page, illustrated booklet includes many new developments and adaptations of Redington machines. Copies are available from F. B. Redington Co., 3024 St. Charles Rd., Bellwood, Ill.

A special event during the Packaging Show in Atlantic City last month was a meeting of the **National Security In-**

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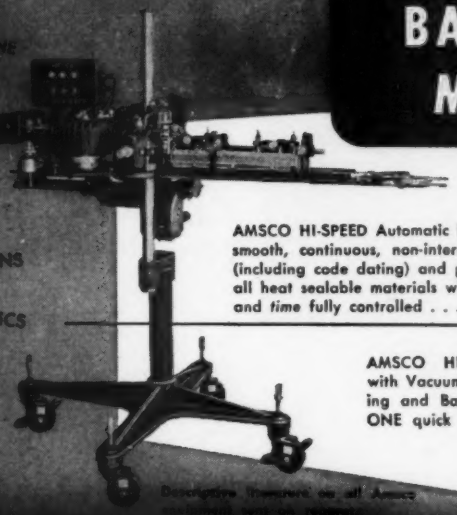

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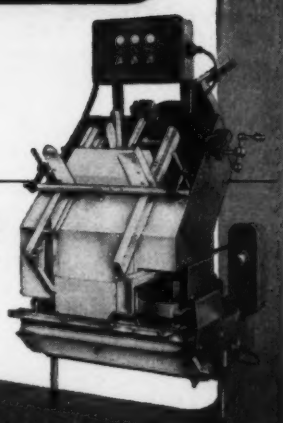

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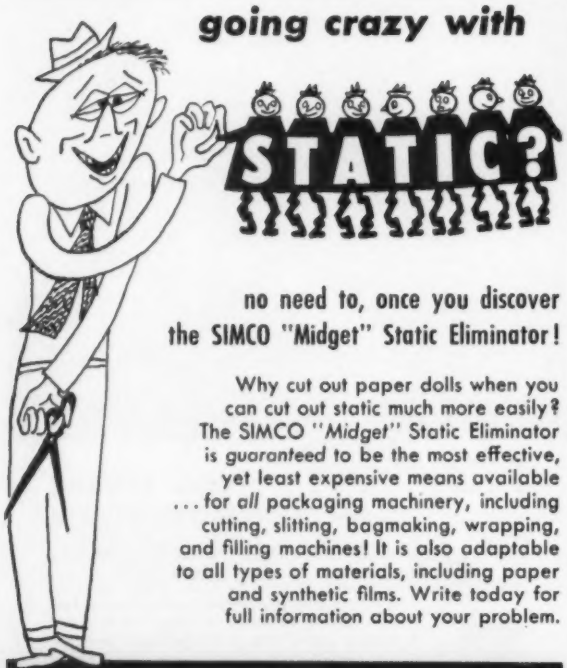

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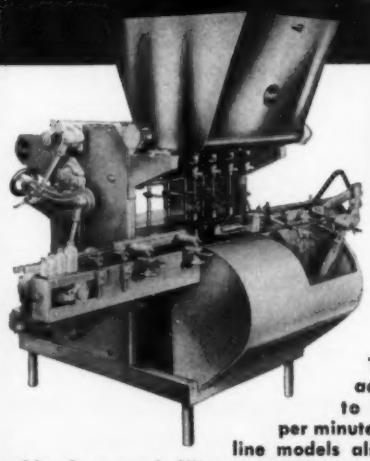

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dustrial Assn.'s Packaging Advisory Committee. Representatives of the military departments were present and the various task committees submitted progress reports.

Publication of a fully revised edition of "How To Ship By Air in Corrugated Boxes," a Little Packaging Library

booklet, has been announced by **Hinde & Dauch**. The new edition, with completely new format and illustrative material, is available on request to Hinde & Dauch, Sandusky, Ohio.

Celanese Corp. of America has just published a booklet titled "What V.I.P.s Say About the Window Box," which summarizes the views on this subject of 10 top executives in a variety of consumer fields. Copies of the booklet are available free of charge on request to Celanese Corp. of America, Plastics Division, Dept. V.I.P., 290 Ferry St., Newark 5, N. J.

Continental Can Co. has prepared a series of revised fact sheets that present a completely up-to-date packaging picture of the company at the start of its second half-century in the packaging field. Five different fact sheets are available: (1) A—Revision 4, Growth and Structure; (2) B—Revision 4, Metal Container Manufacturing; (3) C—Revision 4, Fibre Drum and Paper Container Manufacturing; (4) D—Revision 4, Crown and Cork Manufacturing; (5) F—Revision 2, Shellmar-Betner Flexible Packaging Division. For copies, write to Continental Can Co., Inc., 100 E. 42 St., New York 17.

The third annual **National Sales Aids Show**, sponsored by the **Advertising Trades Institute**, will be held at the Statler Hotel, New York, June 11-13. More than 10,000 sales, merchandising and advertising executives and other buyers of sales promotional materials and services are expected to attend.

The American Council of Independent Laboratories, Inc., has just published the 1956 edition of its Directory. **Dr. Bernard L. Oser**, chairman of the Directory Committee, is vice president and director of Food Research Laboratories, Inc. The Index of Services, appearing

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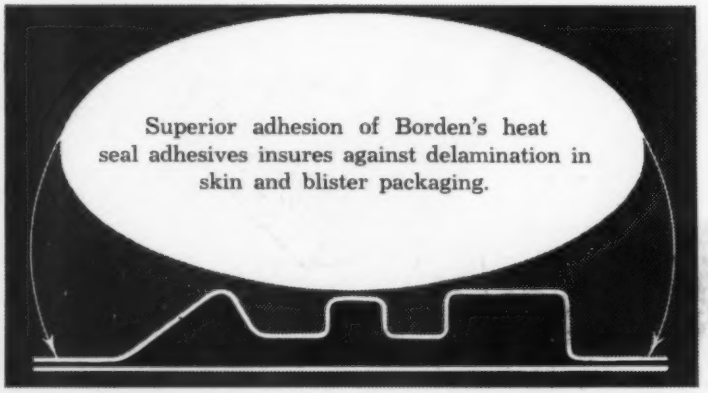

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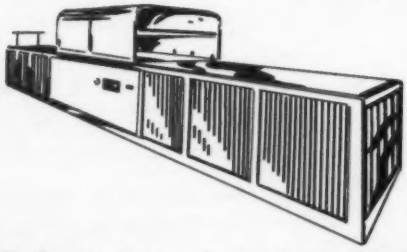

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for the first time in this new edition, lists more than 400 categories of services. For copies of the Directory, write to the American Council of Independent Laboratories, Inc., 4302 East-West Hwy., Washington 14, D. C.

Letterpress will be the dominant printing process of the future if all branches of the letterpress industry cooperate and engage in research, according to **I. D. Robbins,** New York printing consultant, who has just completed a comprehensive market study on behalf of the **International Assn. of Electrotypers & Stereotypers, Inc.** Mr. Robbins' findings are presented in a 24-page booklet titled "The Present and Future of the Printing Processes," copies of which are available on request to the International Assn. of Electrotypers & Stereotypers, Inc., 701 Leader Bldg., Cleveland 14, Ohio.

Detailed information on the custom-designed and standard packaging and promotional specialties produced by **Plastic Artisans, Inc.** is presented in a new illustrated eight-page booklet. Free copies are available from Plastic Artisans, Inc., Dock St. & Martin Pl., Port Chester, N. Y.

The 20th anniversary **National Time and Motion Study and Management Clinic** sponsored by the **Industrial Management Society** will be held Oct. 31-Nov. 2, Sherman Hotel, Chicago. Feature of the event will be the Annual Methods Improvement Contest.

The most economical methods of repairing wooden pallets used with materials-handling equipment in the Armed Forces has just been released to industry through the Office of Technical Services, **U. S. Dept. of Commerce.** Prepared by the Navy, the 34-page report is titled PB 111755 Pallet Repair Manual, H. A. Rothe and M. Toscano, Naval Supply and Devolopment Facility, Bayonne, N. J., April, 1955. Copies, priced at $1 each, may be ordered from OTS, U. S. Dept. of Commerce, Washington 25, D. C.

An exhibit telling the story of trademarks and their impact on present-day life has been prepared by the **United States Trademark Assn.** at the request of the U. S. Patent Office to mark the diamond anniversary of the enactment of the first constitutional trademark law. The exhibit was first shown in the Department of Commerce Bldg., Washington, then at the Grand Central Terminal in New York. It will be shown around the country in connection with trademark seminars and at conventions of interested groups. Details of the schedule of the exhibit are available from the U. S. Trademark Assn., 522 Fifth Ave., New York 36.

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U. S. patents digest

This digest includes each month the more important patents of interest to those who are concerned with packaging materials. Copies of patents are available from the U. S. Patent Office, Washington, at 25 cents each in currency, money order or certified check; postage stamps not accepted. Edited by H. A. Levey.

Machine for Making Window Bags, H. L. Bartelt, Rockford, Ill. (45% to D. E. Bartelt). U.S. 2,734,431, Feb. 14. A bag-making machine with means for supporting a first strip of material and guiding the same endwise along a predetermined path, mechanism for supporting a transparent strip alongside first strip and means disposed along said path and operable to fold first strip longitudinally around transparent strip.

Tape Roll Holder and Tear Strip, B. F. Gilbreth, Nantucket City, Mass., and B. J. William, Pompton Plains, N. J. U.S. 2,734,575, Feb. 14. A tape dispenser for use with a roll of tape comprising a substantially rectangular body portion, one edge thereof being serrated for use in tearing the tape, end of body portion carrying said serrated edge being outwardly and forwardly curved.

Tape Dispensing Device. V. F. Slezak, Berwyn, Ill. U.S. 2,734,576, Feb. 14. A tape dispensing device comprising a frame having members frictionally gripping opposite side portions of a tape roll and movable about the periphery of the roll by a pull on the tape for stripping tape from roll, rod carried by frame extending across roll over which tape is inverted and drawn.

Packaging of Explosive, C. R. Pullum and T. R. Harvey (to Olin Mathieson Chemical Corp.). U.S. 2,734,623, Feb. 14. A prepared package comprising a pair of confining members each provided with a plurality of spaced cells arranged in the same pattern, cells of said members being aligned, a layer of rupturable material between members, explosive-laden devices in some of cells, one only of each pair of aligned cells being occupied by an explosive-laden device, and closure means for retaining parts in the relationship aforesaid.

Moistureproof Vial Closure, J. C. Callahan and W. J. Rumpf (to American Cyanamid Co., New York, N. Y.). U.S. 2,734,649, Feb. 14. A closure for a bottle containing a moisture-sensitive material which comprises a silicone-coated stopper, a microcrystalline wax moistureproof barrier layer covering major portion of exposed surface of stopper.

Sanitary Bottle Closures, G. L. N. Meyer (to Geo. J. Meyer Mfg. Co., Cudahy, Wis.). U.S. 2,734,650, Feb. 14. In a bottle having a reinforcing ring and a crown closure to seal the contents therein, a sanitary bottle seal shrinkable into position and extending over the top of the closure member and tightly embracing both the crown closure and the reinforcing ring.

Container Sealing Apparatus, C. L. Day and F. E. Fauth (to Crown Cork & Seal Co., Inc., Baltimore, Md.). U.S. 2,734,672, Feb. 14. In a mechanism to secure a cap element provided with threaded-type engaging means to a threaded-type mouth container element, means to move the container element and a loosely applied cap element in a predetermined path, means in path to engage the peripheral portion of the cap to cause that element to turn in unthreading direction with respect to container and means further on to turn it in threading direction with respect to the other element.

Automatic Closure Machine, S. G. Hazel and R. B. Richards (to The Sherwin-Williams Co., Cleveland, Ohio). U.S. 2,734,673, Feb. 14. An improvement which provides for automatic handling of dual-element closures consisting of a fingered inner disk element in compression assembly within a flanged outer ring element which comprises conveyor means for advancing a container into single-point crown contact with a pre-positioned closure assembly supported at point of contact and an angle of less than 90 deg.

Bottle Cap Feeding Mechanism, F. A. Ray (to Mid-West Bottle Cap Co., Belvidere, Ill.). U.S. 2,734,674, Feb. 14. In a bottle capping mechanism, a feeding mechanism for removing bottle caps from a pair of separate stacks thereof comprising: a pair of reciprocable suction-cup plungers operative when moved forward to engage the adjacent cap in the corresponding stack and operative when retracted to withdraw said cup from the stack.

Tray-Type Container, E. L. Arneson (to Morris Paper Mills, Chicago, Ill.). U.S. 2,734,677, Feb. 14. In a tray construction having a bottom with side and end walls collapsible inwardly thereon, end walls having an integral top end flap hinged inwardly thereof to form a partial top cover at the end of the tray, a corner connecting member comprising a connecting flap portion and a connecting tongue portion, connecting flap being hinged at one end to adjoining side.

Venting Closures, J. M. Wheaton and F. G. Pellett (to Owens-Illinois Glass Co., a corporation of Ohio). U.S. 2,735,565, Feb. 21. The combination of a closure and a container formed with a neck and an annular sealing surface, closure comprising a relatively rigid shell and an insert formed of a material which is flexible and resilient when formed in thin sections, said shell comprising a flat top portion and a depending marginal skirt, insert comprising a complementary flat top portion and a depending marginal skirt whereby insert is securely held within shell.

Packaging Machine, L. H. Messinger (to Remington Arms Co., Inc., Bridgeport, Conn.). U.S. 2,735,598, Feb. 21. Apparatus for the continuous packaging of articles comprising a plurality of similar conveyors, driving means for said conveyors, means for segregating articles into groups and delivering a segregated group of articles to each of conveyors, means for bringing the groups of articles on conveyors, respectively, into juxtaposition.

Apparatus for Sealing Containers, J. Hohl, O. Bjering and W. J. Ringel (to Owens-Illinois Glass Co., a corporation of Ohio). U.S. 2,735,600, Feb. 21. In a container sealing apparatus, the combination of a base, an upper housing mounted for vertical displacement relative to the base, a horizontally traveling endless conveyor mounted on base for carrying containers in a substantially straight line below a series of operating units including a head spacer mounted on upper housing above the conveyor and having head-spacer units adapted to enter the mouths of containers.

Nestable Containers, P. Wasyluka (to Gaylord Container Corp., St. Louis, Mo.). U.S. 2,735,607, Feb. 21. A nestable paperboard container comprising connected-together, vertically disposed inner and outer wall structures and a bottom closing structure, the upper edge of the wall structures being defined by a fold which integrally joins the same.

Basket With Stacking Lid, W. C. George (to Gaylord Container Corp., St. Louis, Mo.). U.S. 2,735,608, Feb. 21. A container with upstanding walls connected to a bottom panel and a closure member comprising a cover with a peripheral rim formed of flanges depending therefrom and having a plurality of separate load-supporting ledges positioned at intervals on inner face of rim.

Combined Light-Sensitive Film and Draw Tab for Film Packs and Method of Making Same, C. R. Fordyce and B. C. Michener (to Eastman Kodak Co., Rochester, N. Y.). U.S. 2,735,771, Feb. 21. A combined light-sensitive film and paper draw tab for film packages comprising a sheet of film having a light-sensitive emulsion on one surface and a gelatin coating on and integral with the opposite surface, a paper draw tab, draw tab lying in face-to-face relation with the gelatin-coated surface of said film and attached thereto.

Method of Forming Liners for Paper Containers, I. L. Wilcox (to Oswego Falls Corp., Fulton, N.Y.). U.S. 2,736,065, Feb. 28. The method of forming liners from thin sheet plastic material for paper containers, the improvement consisting in positioning a heated sheet of the plastic material on the open end of the container, securing the marginal portion of the sheet against movement, engaging an annular area in the central portion of the sheet by a plunger, drawing the sheet partially into the container

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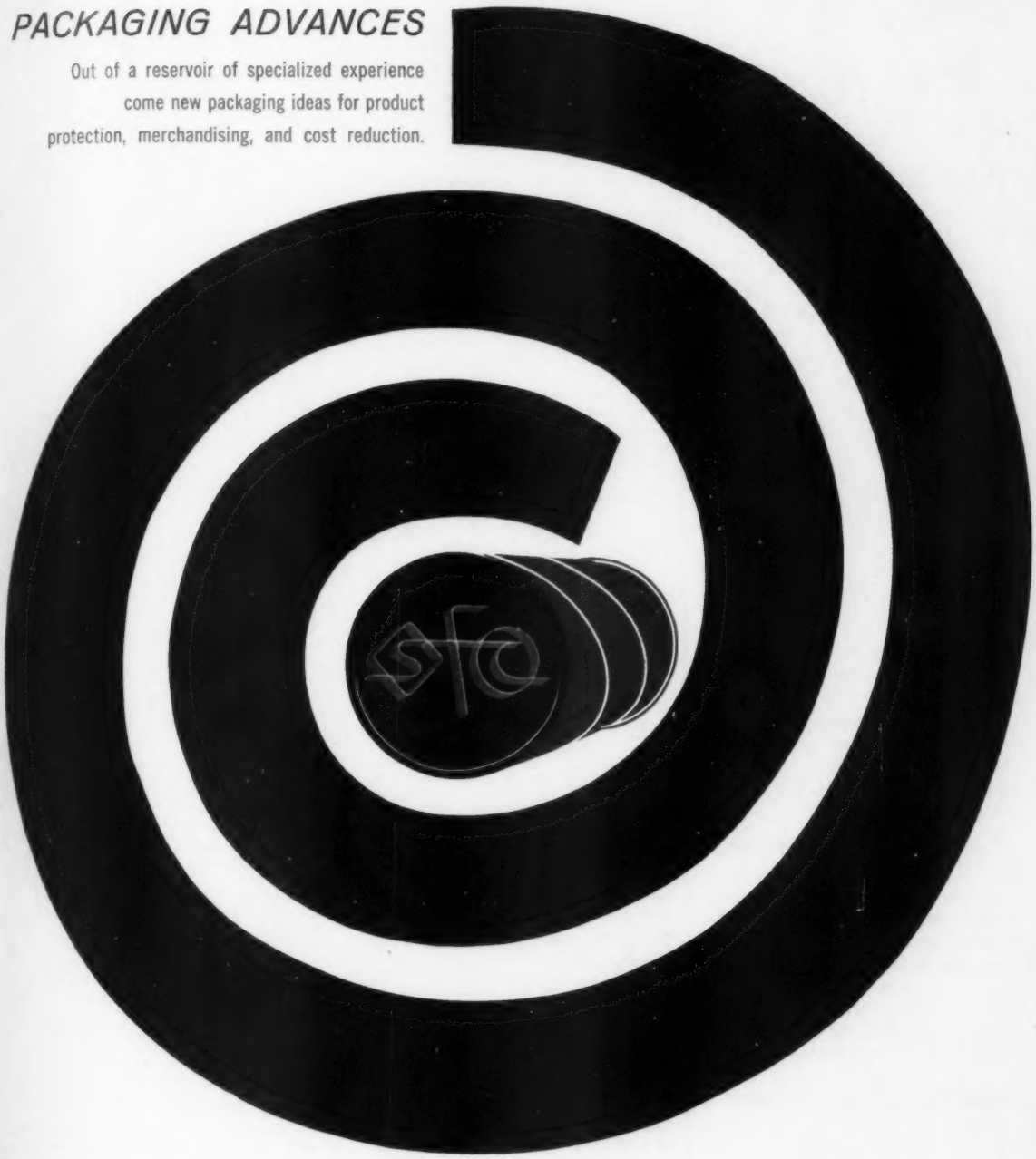

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U. S. patents digest

by the plunger and thereupon applying fluid pressure to the outer surface of the sheet in excess of the fluid pressure between the sheet and the inner surface of the container.

Cigarette Feed for Packaging Machines, J. Jackson, J. A. Maul and E. E. Pohl (to American Machine & Foundry Co., a corporation of New Jersey). U.S. 2,736,476, Feb. 28. In a cigarette feed for packaging machines, a hopper adapted to contain a bulk supply of cigarettes, a plurality of chutes located at the bottom of hopper, oppositely movable sets of lifting arms in hopper provided with means for engaging and supporting a portion of said bulk supply of cigarettes above said chutes.

Packaging Apparatus, C. H. Krebs and J. D. Franks (to Atlas Boxmakers, Inc., Chicago, Ill.). U.S. 2,736,477, Feb. 28. An apparatus for charging a stack of round disks into a polygonal container comprising rod-supporting means, a plurality of parallel rods projecting therefrom and having free ends remote from supporting means in positions corresponding with corners of container.

Shipping Containers, A. C. Moore (to Highland Box Co., Highland, Ill.). U.S. 2,736,483, Feb. 28. A chick box comprising a blank of doub'e-faced corrugated paperboard, blank being centrally folded upon itself along a line transverse to the corrugations to form a partition extending integrally the length of the box with the corrugations running vertically.

Dispensing Carton, O. L. Vines (to Alford Cartons, Ridgefield Park, N. J.). U.S. 2,736,484, Feb. 28. A dispensing carton which comprises a front wall, a rear wall, two side walls, the top edges of walls lying in the same plane, a bottom closure structure and a top closure structure, the top closure structure being composed essentially of three substantially co-extensive flaps adhesively secured to one another in superimposed position to form a top cover panel.

Box With Readily Attachable End Closure, J. G. Rabby (to National Container Corp., New York, N. Y.). U.S. 2,736,485, Feb. 28. A box comprising an open-ended tubular casing having at least one open end and an end closure therefor, tubular casing comprising wall panels connected at their side edges and having end edges at open end, some of panels being provided with a pair of spaced slots substantially equally spaced from and substantially perpendicular to an end edge thereof and positioned close to side edges thereof.

Cover-Locking Means for a Container, W. C. George (to Gaylord Container Corp., St. Louis, Mo.). U.S. 2,736,487, Feb. 28. In a container having a polygonal-shaped body consisting of connected together, opposed, upstanding wall members and a bottom, and being open topped, and a complemental shaped hinged closure member for the open top; means for releasably locking cover member to body wall member and preventing movement between cover and wall member in any direction in the plane of the cover.

Box With Inwardly Telescoping Cover, J. G. Rabby (to National Container Corp., New York, N. Y.). U.S. 2,736,486, Feb. 28. A container comprising side walls, flaps of abbreviated height foldably secured to the upper edges of said side walls and folded down inside side walls, container having slots of appreciable length, less than the width of side walls.

Method of Packaging, M. M. Marshall (to Kraft Foods Co., Chicago, Ill.). U.S. 2,736,656, Feb. 28. The method of packaging individual food servings which comprises forming an elongated first strip of thermoplastic material into a longitudinally spaced series of cups while leaving a horizontally extending border flange about each cup, successively filling the cups with a food material, applying a continuous second strip of thermoplastic material to first strip to provide covers for cups and border flanges, width of second strip being greater than that of the first.

Machine for Forming Closures on Ends of Fibre Containers, R. E. J. Nordquist (to American Can Co., New York, N. Y.). U.S. 2,737,090, March 6. A machine for forming and securing a fibre end closure member to a fibre container body, comprising a heated cup-shaped forming die, a plurality of squeezer jaws surrounding die in axially spaced alignment therewith, means for supporting a substantially flat closure member blank carrying on its marginal edge portions a thermoplastic adhesive and means for suporting a tubular container body axially of said supported closure-member blank.

Covered Package With a Cushion for the Package Contents, L. I. Volckening and J. R. O'Meara (to Ivers-Lee Co., Newark, N. J.). U.S. 2,737,290, March 6. A package comprising an approximately flat commodity container having thin flexible walls, a cover formed of a strip of flexible material relatively stiffer than said container walls, having a fold providing a body portion with a container-attaching flap at one end.

Container, R. H. Horning (to Oswego Falls Corp., Fulton, N. Y.). U.S. 2,737,333, March 6. A container comprising a cylindrical body formed of paperboard, a bottom end closure formed of paperboard, closure consisting of a discoidal portion positioned on the end edge of the body and having a cylindrical flange encircling the body, a reinforcing band of paperboard adhesively secured to flange, said band extending upwardly from the edge of said flange and being folded upon itself inwardly and downwardly against the body.

Multiple-Unit Carton, P. N. Halgren (to Fibreboard Products, Inc., San Francisco, Calif.). U.S. 2,737,334. March 6. A multiple-unit carton adapted

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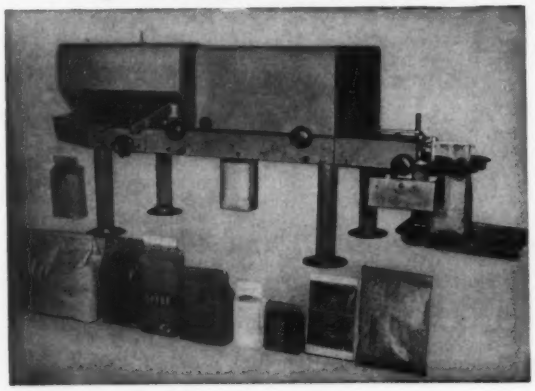

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to be readily separated into its individual units comprising a plurality of adjacent carton sections, each section having opposite end walls, opposite side walls, a cover wall and a bottom wall; the sections being positioned with an end wall of one section in face-to-face relationship with an end wall of an adjacent section.

Unitary Impervious Container, G. A. Moore, New York, N. Y.). U.S. 2,737,335, March 6. A flat-walled container made from a single blank and comprising a bottom wall, two opposing side walls and two opposing multiple end walls, said multiple end walls each including a first longitudinal end-wall member integrally united with a first side wall and a second outermost longitudinal end-wall member integrally united with a second side wall, each said first end-wall member having a top edge consisting of sloping edges converging to longitudinally spaced contact with a common medial edge extending intermediate of side edges and along first end wall.

Container With Hermetic Closures, G. A. Moore, New York, N. Y.). U.S. 2,737,336, March 6. In a container structure having four side walls provided with surface adhesive and being arranged in opposing alternate pairs defining an open end, each wall of one pair of said side walls having an upper marginal portion folded inwardly along its corner edge at right angles to the corresponding side wall, then upwardly and outwardly in substantial face-to-face contacting relation with its outer edge in substantially the plane of corresponding wall.

Container and Container Blank Assembly, G. A. Moore, New York, N. Y. U.S. 2,737,337, March 6. A container made of two crossed blanks of sheet material and having interior surfaces of thermoplastic material thereupon, the container being provided with four side walls arranged in opposing pairs and being integrally and contiguously united with a common uniformly flat two-ply thickness bottom end wall and an open top end being provided with improved closure-forming means.

Resilient Closure for Containers, G. A. Moore, New York, N. Y.). U.S. 2,737,338,, March 6. A container of sheet material comprising a body portion of substantially rectangular horizontal cross section having side walls arranged in opposing pairs and a substantially flat end closure for said body portion, said end closure including a pair of inwardly opposed folded oblong marginal wall portions integral of one pair of opposed side walls, each inwardly folded margin of pair being further folded upon a central and straight longitudinal fold line that is parallel with the first folded corner edge so that like marginal portions are self-superimposed, and the face of the longitudinal end cut edge of the upper disposed folded margin being positioned in substantially coplanar relationship with the exterior.

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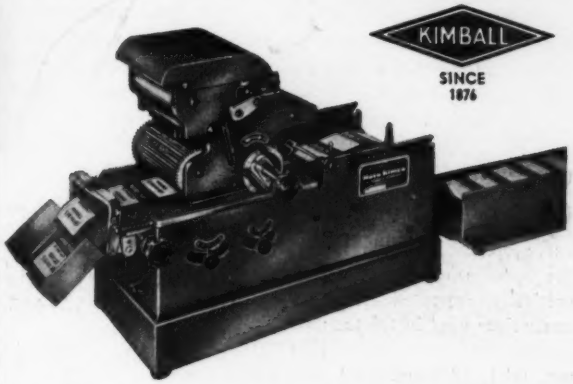

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New package boosts sales, survey shows

Package changes were made by 81% of food manufacturers last year, according to a survey of 307 food and grocery companies representing $28 billion of the $51 billion food manufacturing industry. The study was made by Don White, Inc., for the Folding Paper Box Assn. of America.

Three fourths, or 75%, of those interviewed said that a new package meant a boost in sales and more than half stated that "most or all of the sales increase was due to the package."

"Display value" and "consumer attention were the two most important factors in decisions on package changes, according to 46%. Another 21% felt that brand identification was the first consideration.

More than half of the companies said that their most recent packaging change was planned on the basis of some kind of study or analysis. The sales manager was the most influential member of the firm in making the final decision on a new package, according to 31% of the group. A packaging committee ranked next for 23%. Cost was rated in seventh place as a determining factor in deciding a package change or selection of a new package.

What was pointed out as a possible new trend was the fifth (23%) of all packaging executives who said that packaging costs should be allocated to either sales or advertising expense. The majority (77%) felt packaging still belonged, properly to "production-expense."

The survey showed the biggest share of new packages (44%) was racked up by folding cartons. Chief reasons for the acceptance of folding cartons by food manufacturers given in White's report were: product protection, lower costs, superior display, economy in handling, and consumer and sales appeal. And more than 60% of those interviewed said they expect to increase their use of folding cartons in 1956.

Results of the survey were reported as being "preliminary" and the initial part of a continuing study by the FPBAA of packaging in food and grocery stores.

Corrosivity of packaging materials

[*Continued from page 169*]

curve obtained by the tests made, the specific conductivity was theoretically computed for some concentrations used in the test; *viz.*, 0.2 mg. of NaCl per 100 ml. (C_1), 2.0 mg. (C_2), 10.0 mg. (C_3) and 20.0 mg. (C_4).

The ionic conductivity can be computed by the formula:

$$\lambda = \lambda\,\infty - k \times C^{1/2} \quad \ldots\ (1)$$

λ = ionic conductivity

$\lambda\,\infty$ = ionic conductivity at infinite dilution

k = a constant

C = concentration expressed in g. eq. per 1.000 ml.

$\lambda\,\infty$ for NaCl = 108.6 at 18 deg. C. (10)

Four points were determined on the curve, corresponding to the following concentrations:

$$C_1 = \frac{2}{1{,}000 \times 58.5} = 3.42 \times 10^{-5}$$

$$C_2 = \frac{20}{1{,}000 \times 58.5} = 3.42 \times 10^{-4}$$

$$C_3 = \frac{100}{1{,}000 \times 58.5} = 1.71 \times 10^{-3}$$

$$C_4 = \frac{200}{1{,}000 \times 58.5} = 3.42 \times 10^{-3}$$

Varying with the concentration, the constant was computed for the above concentrations according to Formula 1. We then obtain

$$k_1 = 73.7$$
$$k_2 = 73.0$$
$$k_3 = 72.8$$
$$k_4 = 71.6$$

If these values are inserted for the constant, in Formula 1, we obtain

$$\lambda_1 = 108.6 - 73.7 \times 3.42 \times 10^{-5} = 108.2$$

$$\lambda_2 = 108.6 - 73.0 \times 3.42 \times 10^{-4} = 107.2$$

$$\lambda_3 = 108.6 - 72.8 \times 1.71 \times 10^{-3} = 105.6$$

$$\lambda_4 = 108.6 - 71.6 \times 3.42 \times 10^{-3} = 104.4$$

It is then possible to compute the specific conductivity by the following formula:

$$\chi = \frac{\lambda \times C}{1{,}000} \quad \ldots\ (II)$$

If the values computed above are inserted for λ, we obtain the following values for the specific conductivity at the above concentrations:

$$\chi_1 = \frac{108.2 \times 3.42 \times 10^{-5}}{1{,}000} = 3.70 \times 10^{-6}\ \text{Ohm/cm.}$$

$$\chi_2 = \frac{107.2 \times 3.42 \times 10^{-4}}{1{,}000} = 3.67 \times 10^{-5}\ \text{Ohm/cm.}$$

$$\chi_3 = \frac{105.6 \times 1.71 \times 10^{-3}}{1{,}000} = 1.81 \times 10^{-4}\ \text{Ohm/cm.}$$

$$\chi_4 = \frac{104.4 \times 3.42 \times 10^{-3}}{1{,}000} = 3.57 \times 10^{-4}\ \text{Ohm/cm.}$$

If these values are inserted for the specific conductivity in Fig. 10, we obtain Curve 2. This curve is parallel to Curve 1, which proves that the drafted calibration curve is correct and that the reliability of the analysis is satisfactory. Curve 1, however, is displaced so as to show a higher specific conductivity. This will be due to small amounts of electrolytes having been dissolved from the wall of the glass cell used in the analyses.

Procedure

For the tests, three 200-ml. Erlenmeyer bottles and three watch glasses having a diameter of 40 mm. are used, which are cleaned in accordance with the directions given above. Next, 2.0 to 2.5 g. of the sample are weighed with an accuracy of 0.001 g. for each bottle and are then cut into pieces of about 1 sq. cm. The pieces are put into the bottles, whereupon 100.0 ml. of double-distilled water of $\chi_{18°} < 4 \times 10^{-6}$ Ohm/cm. are poured over the specimens. The sample is then heated to boiling, whereafter the bottle is transferred to a water bath where the sample is left to digest for 1 hr. at 100 deg. C. under a watch glass. The bottle is then chilled in running water and the extract is transferred to a measuring vessel. The specific conductivity is determined at 18.0 deg. C. Triple samples must not deviate *inter se* to any great extent.

The specific conductivity having been determined, it is possible to read with the aid of the calibration curve to what quantity of NaCl the electrolytes contained in the paper correspond. The result is indicated

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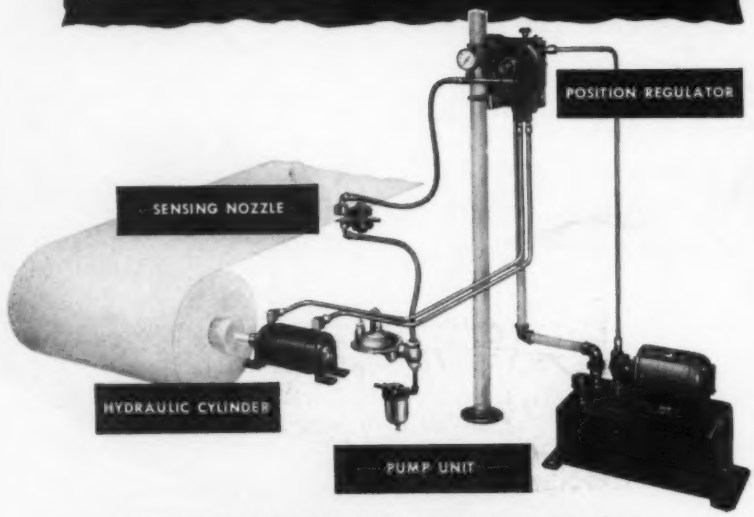

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in per cent of NaCl. For papers of good quality, according to the literature, the value should not exceed 0.1%.

Together with the result, the specific conductivity of the water used for the analysis as well as the determination temperature should be stated.

Results on materials

To ascertain the relationship of electrolyte content and pH in paper and the corrosive properties thereof, the following experiment was made. The materials used in the experiment were the following:

Bleached white duplex, 300 g./sq.m.
Natural kraft, 100 g./sq.m. (I)
" " 80 " (II)
" " 50 " (III)
Filter paper, tech. qlty., 85 g./sq.m.
Greaseproof, 45 g./sq.m.
Greaseproof wet strength, 60 g./sq.m.
Cellophane PT 300
Coated cellophane MST 400
Pliofilm N2 140 (rubber hydrochloride).

1. The pH was determined for the material according to Launer (9) by means of a pH-meter, type Beckman.

2. The electrolyte content was determined as described above.

3. Degreased and ground steel plates of quality St 37, dimensions 40 by 30 by 2 mm., were packed in the test materials in such a way that the air had free access thereto and were then stored in a tropic cabinet. The temperature in this cabinet varied between 20 and 40 deg. C. for 8-hr. periods and at the same time the relative humidity varied between 100 and 60%. Duplicates of each material were tested. After 96 and 264 hrs. the corrosion attacks were checked.

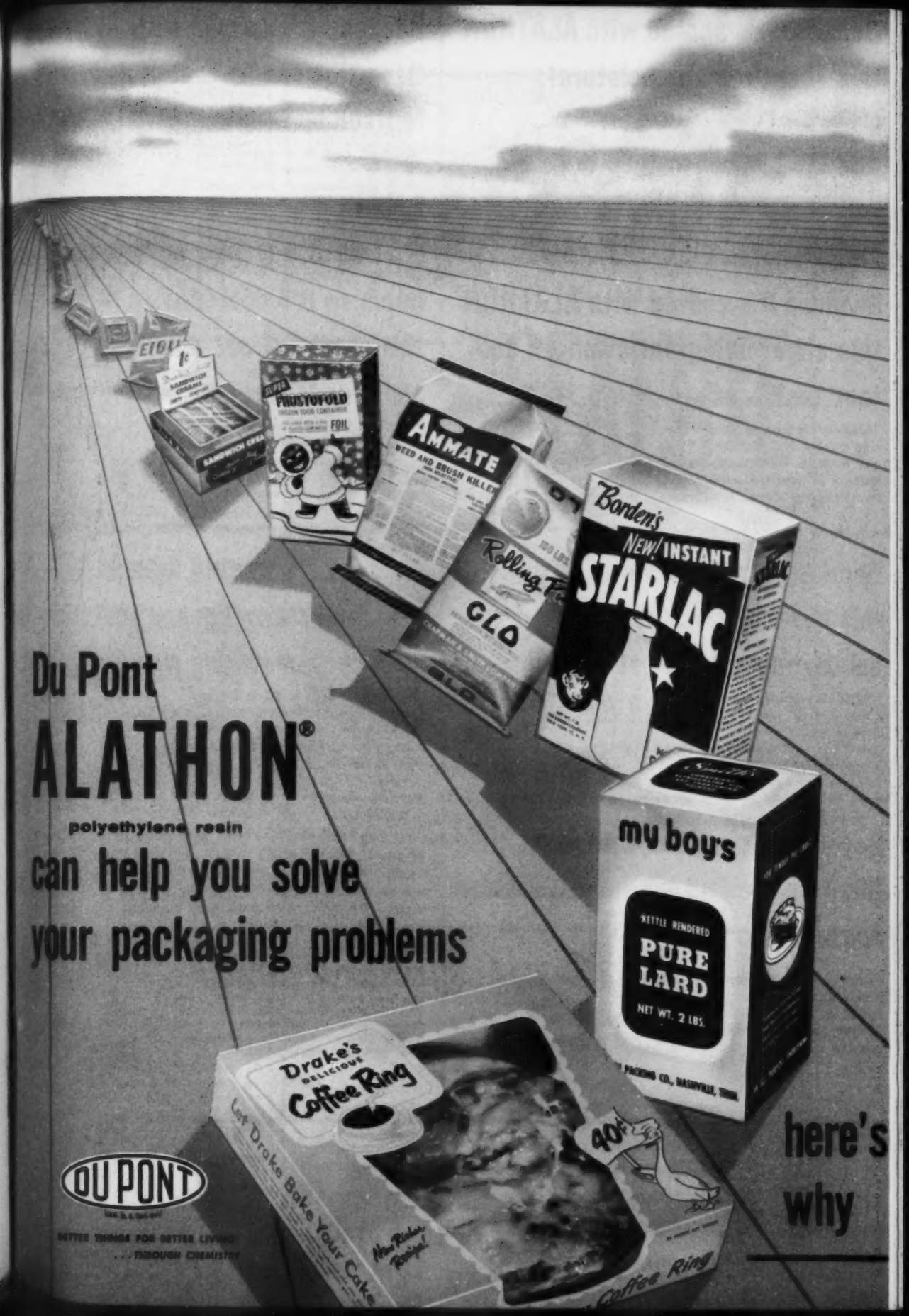
The results of Investigations 1 to 3 appear in Tables II and III.

The rust attack of the steel plates has been indicated according to the following code:

0 = not attacked by rust
1 = traces of rust
2 = clear rust stains
3 = much rust
4 = completely covered by rust

The following appears from the tables and the photograph, Fig. 11.

The heaviest rust attack was shown by the plate packed in PT 300 cellophane. This material also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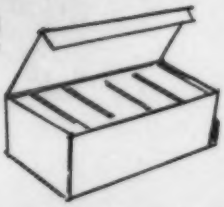

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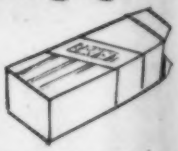

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had the highest electrolyte content. Next to worst was greaseproof, which also showed a relatively high electrolyte content. Least attacked by rust was the steel plate packed in Pliofilm, which had the lowest electrolyte content. The specific conductivity exceeded but insignificantly the value of the water used for the analysis.

These results thus confirm that there is a direct relationship between electrolyte content and corrosion attacks, resulting from the contact of the steel with an electrolyte-containing packaging material.

The results after storing for 96 and 264 hrs. are identical, but more pronounced corrosion attacks occur after 264 hrs.

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CORRECTION. The March article, "Two Ways to Package Slices," p. 170, was in error in indicating the speed limit of the Wrap King machine used at Wilson & Co., as illustrated on pp. 172-173, to be 40 packages per minute. This wrapping and labeling machine, manufactured by Wrap-King Corp., Holyoke, Mass., is sold with a guaranteed speed of 60 per minute and is reported to be operating at 70 in many installations. MODERN PACKAGING regrets the error.

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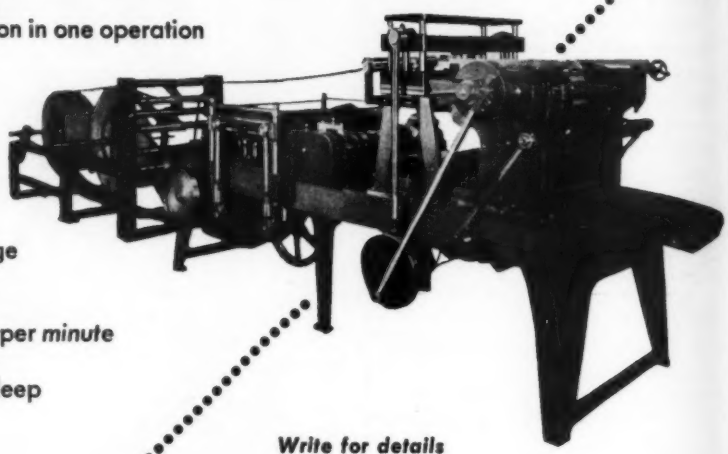

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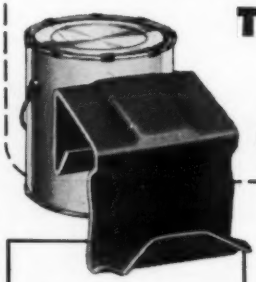
IF YOU MAIL LIQUIDS...

LOCK CAN LIDS TIGHT WITH

TINNERMAN lid-seal *Speed Clips!*



SPEED CLIP is positioned against hem at edge of can.

Thumb pressure snaps SPEED CLIP into prelocked position.

A quick rap with a screwdriver locks it in place.

Fast... Sure... Low-Cost!

- **Approved by U. S. Post Office Department**
- **For ½ pint thru gallon can sizes**
- **Eliminate soldering**
- **Easy to apply... no heat**
- **Easy to remove**
- **Lids undamaged by opening**

Write today for free samples!

TINNERMAN PRODUCTS, INC.
Box 6688, Dept. M56, Cleveland 1, Ohio

Students available

During the coming summer, nearly 70 students enrolled in the four-year packaging program at Michigan State University will be seeking temporary employment in the packaging field.

In past years, these young men have handled jobs as vacation replacements in production, quality control, sample making, design and testing assignments. Most are qualified to perform routine tests on paper, paperboard, films, foils and containers of practically all kinds. Some have successfully filled positions as temporary project engineers on short-duration projects and many are interested in sales or technical service positions.

Container manufacturers, converters and package-using companies are urged to list their summer openings with the Placement Bureau, Michigan State University, East Lansing, Mich., as soon as possible. Temporary employment of these men is suggested as an excellent means of locating prospective future permanent personnel.

Thermoforming arrives

[*Continued from page 105*]

hardware. This package employs a transparent acetate dome and a matching bottom tray formed from red acetate and silk-screen printed. The packages are contoured to the shapes of hinges, hasps and similar hardware. The top and bottom are heat sealed to effect a tamperproof closure. These compact, self-selling, see-through packages do a merchandising job that neither bulk display nor previous packaging could.

Pre-printed thermoforms have scored major successes in the display field. A greater use of this technique surely can be expected in packaging.

Trap forming

Specialization in thermoforming is exemplified by the equipment and methods now employed in the Easton, Pa., plant of the Dixie Cup Co. This firm is forming transparent oriented polystyrene lids for liquid-tight and metal food containers.[7] Dixie Cup employs a six-head unit that is fed automatically with circu-

[7] See "Trapped Sheet Forming," *Modern Plastics*, March, 1956, p. 117.

now available from CAMPCO

CELLULOSICS

- **Campco A-130 (cellulose acetate)** — noted for its strength and toughness. Excellent for vacuum forming. New non-blushing formulation is ideal for blister packs.
- **Campco B-120 (cellulose butyrate)** — has exceptional strength in thin sections . . . can endure long exposure without deterioration . . . lower in cost than most other transparent plastics used for outdoor signs.
- **Campco E-100 (ethyl cellulose)** — highest thin-section toughness of all . . . maximum dimensional stability . . . minimum moisture absorption . . . light in weight.

Now you can fill all your requirements for plastics sheet materials from one reliable source. For CAMPCO now offers not only the well-known S-300 and S-540 modified styrene sheet material — including the new wood-grain CAMPCO — but also the cellulosics named above.

All three cellulosics are available in sheets or rolls depending on the gauge . . . cut-to-size if desired . . . clear or colored transparent . . . translucent or opaque. Rolls of clear film are carried in stock for immediate shipment at cost savings.

Want more details? Mail the coupon today for free data sheet, which includes physical characteristics of these new CAMPCO products, and pertinent price information.

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☐ Please send data sheet on Campco cellulosics.

☐ Kindly send sample sheets of Campco A-130_____; B-120_____; E-100_____

The size and gauge I would prefer are_____

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Company_____

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This comprehensive Chart is part of a profusely illustrated brochure showing how BONDMASTER Adhesives have successfully solved such problems for other leading firms in your own field. Write for your FREE copy today — without cost or obligation.

RUBBER AND ASBESTOS CORP.
233 BELLEVILLE AVE. BLOOMFIELD, N.J.

lar blanks of polystyrene. The machine operates on a 5-sec. cycle and can produce more than 70 lids a minute. The forming takes place at a temperature between 250 and 300 deg. F. Air pressure of about 300 p.s.i. is employed.

A special technique called trap sheet forming, in which the edges of the sheet are "trapped," or clamped in place, is used because the biaxially oriented polystyrene would otherwise become unoriented when subjected to such relatively high forming temperatures and pressure.

All manufacturers of thermoforming equipment are striving to make thermoforming a more automatic operation. One manufacturer, for example, has just announced the development of an automatic, continuous production machine that inserts the product being packaged between two sheets of clear plastic and forms, prints and trims individual packages at a speed of five to 20 units per minute. The machine will also strip package and rewind the strip. More machines of this type will be forthcoming.

Thermoformers who essentially are custom packagers have long had specialized equipment that forms, fills and seals automatically and at high speed. But this equipment is not commercially available and its speed and cost would not appeal to smaller packagers even if it were. Kraft Foods, of course, has complete automatic forming and packaging equipment said to be capable of producing 300 Portion Control units a minute.

Thermoforming, it would appear, can be adapted either for small or large volumes and it can be done in a packager's own plant or by outside contractors, as conditions may warrant.

Not in years has the packaging field seen any new technique so original, so practical and so widely applicable. Thermoforming has been giving new packaging impetus to products like plumbing supplies, tools, notions and other items, some of which had not previously known an effective self-service package.

To date thermoforming has not threatened the progress of molded plastics or other package forms. It probably never will. Its real role, as most packagers see it, will be one of contributing new vitality to the packaging field and new opportunity.

Western show

Arrangements are set for the sixth Western Packaging & Materials Handling Exposition, which will be held in the Los Angeles Pan Pacific Auditorium, July 10-12. According to Clapp & Poliak, exposition managers, this show will top all previous Western shows in both exhibits and attendance. All original space was sold out and the floor plan has been expanded to accommodate additional exhibitors and a large share of the extra space is also reported to have been contracted for by packaging machinery and materials companies.

Stepped-up production

[*Continued from page 127*]

pletion of new warehouse facilities, in a building directly across the street from the Oelerich plant, will pave the way to this ultimate phase of the company's broad and highly rewarding package improvement program, under which production and sales have more than tripled since 1951.

Credits: *Glass containers and reshipper-type corrugated boxes by Anchor-Hocking Glass Corp., 20 Glass Ave., Lancaster, Ohio; Owens-Illinois Glass Co., P. O. Box 1035, Toledo 1, Ohio, and Hazel-Atlas Glass Co., 15 and Jacob Sts., Wheeling, W. Va. Lithographed pry-off-type glass container closures by White Cap Co., 1819 N. Major, Chicago. Screw caps for table syrup by Crown Cork & Seal Co., Inc., Eastern Ave. & Kresson St., Baltimore, Md. Cellulose neck bands for syrup bottles by E. I. du Pont de Nemours & Co., Inc., Wilmington 98, Del. Labels by Inland Lithograph Co., 328 S. Jefferson, Chicago. Ten-spout automatic filler by Filler Machine Co., Inc., Pine Rd. & Reading Railroad, Philmont, Pa. Automatic "vapor vacuum" capping equipment and cap feed hoppers by White Cap Co. Model RB 160 thermoplastic labeler by New Jersey Machine Corp., 1553 Willow Ave., Hoboken, N. J. Case sealers by Elliott Mfg. Co., 1735 Ventura St., Fresno, Calif. Uni-Turret labelers by Economic Machinery Co. Div. Geo. J. Meyer Mfg. Co., 60 Fremont St., Worcester, Mass. Rotary filler for syrup line by U. S. Bottlers Machinery Co., 4015 N. Rockwell, Chicago. Capper by Consolidated Packaging Machinery Corp., 1400 West Ave., Buffalo, N. Y. Syrup bottle labeler by Canning Machinery Co., Portland, Ore. Complete conveyor installation by Rapids-Standard Co., Grand Rapids, Mich.*

POST *Decitron* MAGNETIC SWITCH

Positive 'sensing' from zero to 100 cycles per second

The Post model MH-2 is a magnetically operated high-speed switch which is controlled by the proximity of a magnetic field. When the magnet reaches the face of the sealed switch, there is a clean 'make', or contact, and as the magnet moves away, a positive 'break' occurs. No lag . . . no jumping.

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Post's MH-2 is an ideal sensing device for actuating electronic and mechanical counters, controls, solenoids, relays, and other electrical and electronic circuits. Write Post for descriptive literature "M" today.

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No transfers
No clean-ups

EASY TO HEAT, ATTRACTIVE TO SERVE

Foil Kraft plates and pans make your operation more efficient, your product more attractive and convenient. They save you money — help you build sales. Ask your local distributor about Foil Kraft or write direct.

ft does for a pie !

A GREAT NEW ORGANIZATION TO SERVE YOU!

Foil Kraft, the nation's largest producer of aluminum containers for the frozen food industry, is pleased to announce that it has become a part of the Kaiser Aluminum & Chemical Corporation.

This association will combine Foil Kraft's valuable experience and modern plant facilities with all the advantages of Kaiser Aluminum's integrated resources as America's fastest growing major producer of aluminum.

Foil Kraft facilities and personnel will be at your disposal as they have been in the past. Additional modern facilities are under construction in Wanatah, Indiana, to bring better service to this rapidly growing market.

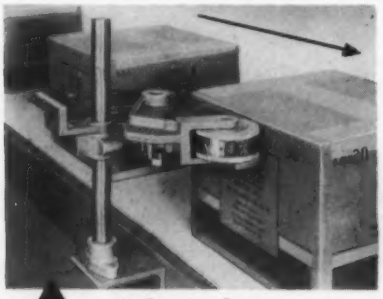
FOIL KRAFT DIVISION

KAISER ALUMINUM & CHEMICAL CORPORATION

P. O. Box 323, Wanatah, Indiana — 1345 South Herbert Street, Los Angeles 53

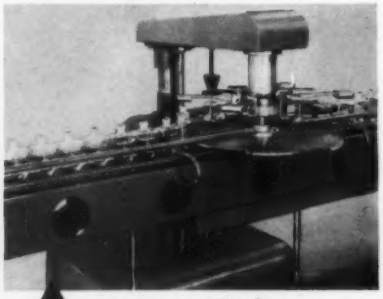
Coding Problem?

There's a Gottscho automatic code-dating machine for every package, every purpose



Side-Coder

This low-cost, friction-driven marker attaches to case-sealer, conveyor, etc. . . . imprints codes, lot numbers, varieties, other legends on side of cartons, cases, drums, filled bags. Model shown (ROLACODER "500" MARKER) codes side and front simultaneously . . . other models code side only or side and rear.



Bottom-Coder

This portable, space-saving unit imprints codes on bottom of jars, bottles, cans, etc. as part of an existing production operation. Imprint surface may be flat or concave, flush or recessed. Wheels right up to the line, can be moved about at will. ("Model TB" MARKO-CODER IMPRINTER).

Other standard *Gottscho* imprinting machines available for top-coding, label-coding, wrapper coding.

Submit details of your coding problem for appropriate literature and our recommendation.

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Automatic Production-Line
CODING, MARKING, IMPRINTING MACHINES

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expertly executed, enhances the eye-appeal of your product at the right point — the point of sale.

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Electronic QUALITY control insures superior QUALITY on small runs, large runs or re-runs.

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PERMANENT LABEL CORPORATION

49 ACKERMAN STREET
Bloomfield, N. J. - EDidson 8-6200

Winning set-up boxes

[*Continued from page* 143]

in place by clip closure in base of box, permitting full view of product. Second Award: The Cambridge Box Co., for hostess-set box for Lamson & Goodnow. Honorable Mention: Friend Box Co., for Hampshire cutlery boxes for Goodell Co.

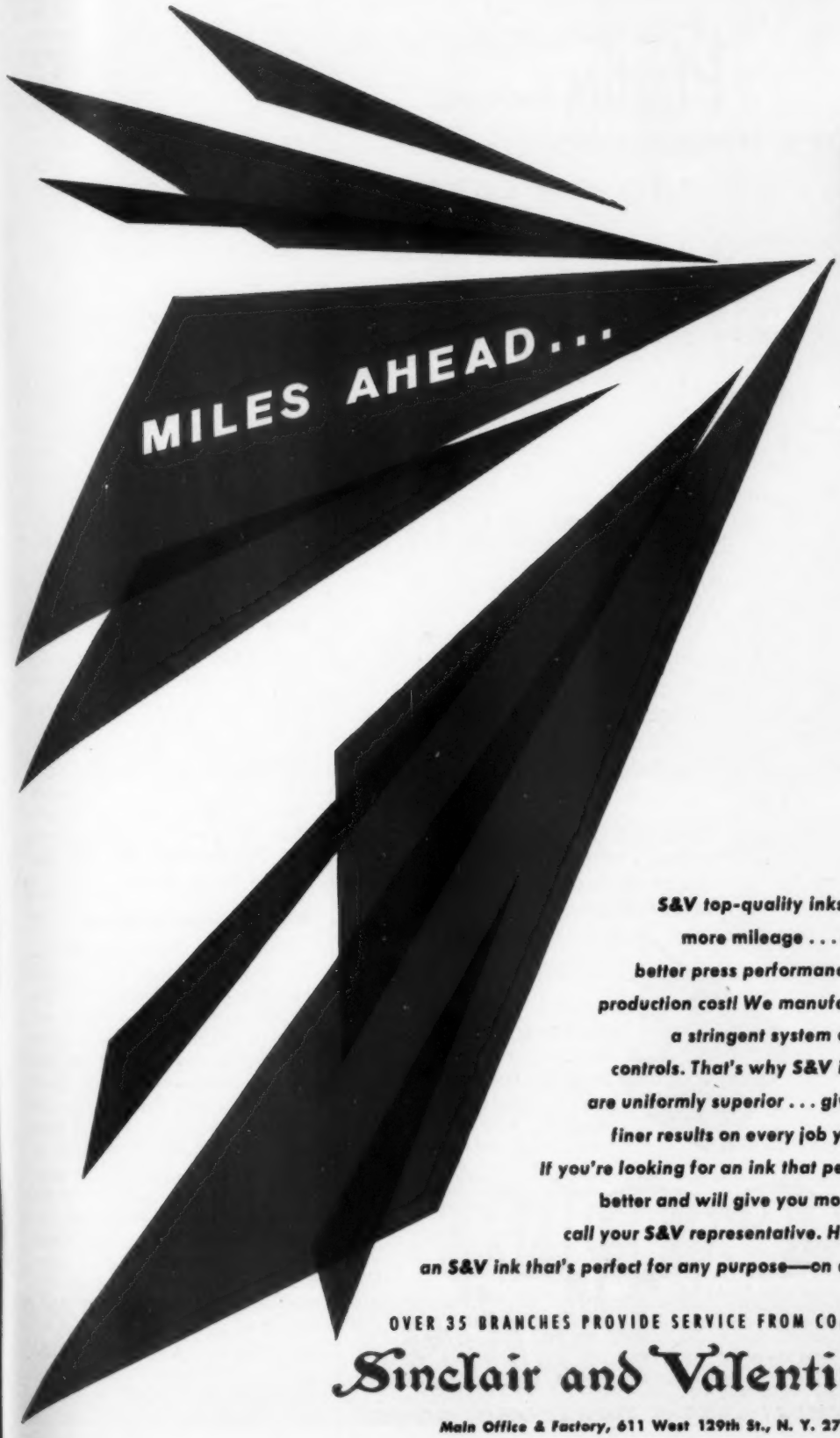
Office Equipment and Supplies—First Award: Van Ness Bros., Inc., for carbon-paper boxes for Mittag & Volger, Inc., (Also won Second Award for Superiority of Construction). Instant brand identification is maintained on each box of different-sized carbon paper by use of black and tan diamond design on white background. Cover paper is turned in to full depth of base and lid for extra strength, with one side of lid being hinged to provide easy access to contents. Second Award: Friend Box Co., for office knife display box for Rudolph Beaver. Honorable Mention: None.

Mailing Boxes—First Award: Kiernan Hughes Co., for Coricidin mailer for Schering Corp. Thumb-cut, telescoping mailer has unprinted bottom to receive addressed label, with manufacturer's announcement printed in three colors on lid. Folded die-cut platform within secures physician's sample. Second Award: Walter P. Miller Co. and Kiernan Hughes Co., for mailing boxes for Burroughs Wellcome & Co. (U. S. A.). Honorable Mention: None.

Miscellaneous Boxes—First Award: Samuel Barnett Co., for for liqueur gift box for Cointreau, Ltd. This box has gold foil cover and shutter-like double-hinged lid, which, when opened, reveals two bottles of liqueur in separate trays. Wrap depicts miniature labels of distiller's other products. Second Award: Quality Park Box Co., for Fishing Encyclopedia gift box for Brown & Bigelow. (Also won First Award for Best Surface Design and Execution.) Honorable Mention: Old Dominion Box Co., for poultry-grits box for Dominion Minerals. (Also won Honorable Mention for Best Transparent Box.)

Best Surface Design and Execution

First Award: Quality Park Box Co., for Fishing Encyclopedia Gift Box for Brown & Bigelow. Parchment-like lid wrap reproduces



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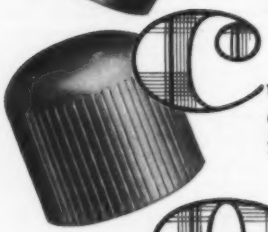
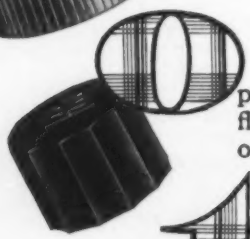
Scott Plastics SOLVE
CLOSURE PROBLEMS
TO THE LETTER!

Standard Closures in many sizes, shapes, and shades can be delivered *on time!*



Custom Closures can be designed, engineered and produced to individual needs.



Operational excellence—clean, flash-free closures that never bind or wedge—guaranteed by Scott.

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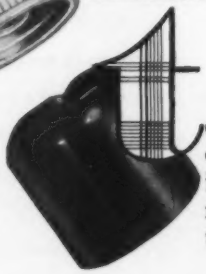
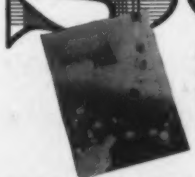


To solve any plastic closure problems, investigate Scott—It may be the thrifty thing to do.



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Scott Plastics

410 WINDSOR STREET • HARTFORD, CONN.

artist's painted montage of fishing scenes, creating a striking contrast with embossed gold-foil-wrapped base. *Second Award:* Mutual Paper Box Corp., for "Fruits & Nuts" candy box for Hillman's, Inc. *Honorable Mentions:* Manufacturers Box Co., for "Spring Fancy" powder box for Prince Matchabelli, Inc.; Liberty Paper Box Co., for infants toiletries box for The J. R. Watkins Co., and W. C. Ritchie & Co., for bath-salts box for The J. R. Watkins Co.

Superiority of Construction

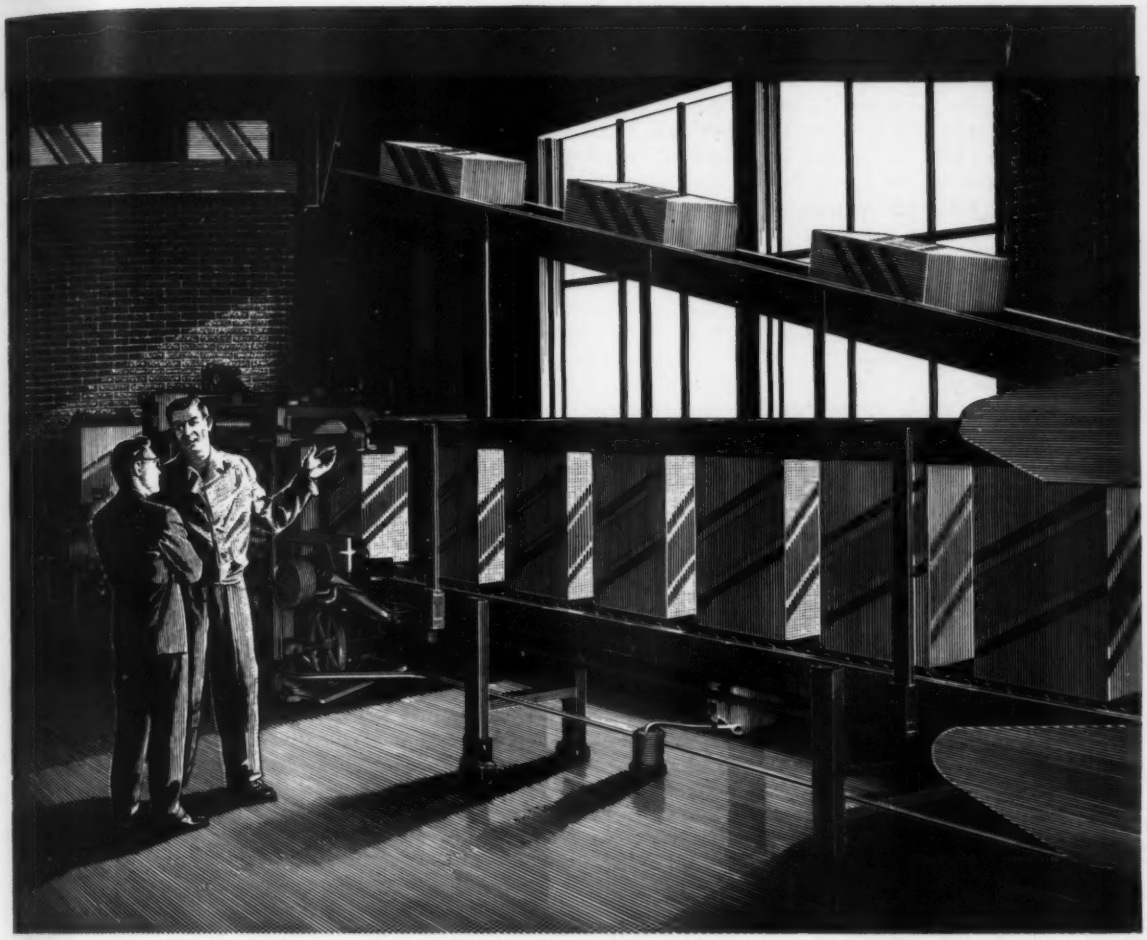
First Award: Congress Paper Box Co. (See under Photographic Products & Supplies above.) *Second Award:* Van Ness Bros., Inc. (See under Office Equipment & Supplies above.) *Honorable Mentions:* Old Dominion Box Co. (see under Textiles above.); Paul T. Freund Corp. (see under Personal Accessories above) and Consolidated Paper Box Co. (see under Hardware & Household Supplies above).

Best Display Boxes

First Award: Congress Paper Box Co. (See under Photographic Products & Supplies above.) *Second Award:* The Chaspec Mfg. Co. (See under Cosmetics above.) *Honorable Mentions:* Paul T. Freund Corp. (see under Personal Accessories above); Samuel Barnett Co. (see under Personal Accessories above) and Manufacturers Box Co. (see under Perfume above).

Best Transparent Boxes

First Award: Samuel Barnett Co., for "Sirocco" Perfume Box for Coty, Inc. The modern rectangular lines of the transparent package are smartly developed by combining small rigid boxes of gold and forest green with a slim acetate sleeve. Sleeve fits snugly into the boxes and a gold elastic ribbon holds all units together. Perfume bottle label, in matching gold and green, is positioned firmly in cut-out wells of the small end boxes. *Second Award:* Samuel Barnett Co. (See under Personal Accessories above.) *Honorable Mentions:* F. N. Burt Co., for Vogue cigarette box for Stephano Bros.; Old Dominion Box Co. (see under Miscellaneous Boxes above) and Newark Paper Box Co., for infants' clothes-hangers box for Baby World Co.



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DIVISION OF CROWN ZELLERBACH CORPORATION

New procedures for testing pouches

[*Continued from page 172*]

instantaneously detectable. Third, only bubbles which recur denote the presence of a leak. Fourth, occasionally it is possible for gas to pass between the various layers of pouch film and create the appearance of a leak. This erroneous result is detected by careful examination of the pouch. Fortunately it does not occur too frequently. Fifth, very dusty products can obscure leaks by lodging fine dust particles in the leak. No remedy is known for this difficulty, although it is anticipated that the chance of a perfect seal of the leak is very slight. This type of difficulty will arise from any leak-detection method except a prolonged exposure test followed by gas analysis of the contents. Thus it seems necessary to accept this possible error.

The writer knows of only two other methods of determining pouch tightness and each has one or more inherent disadvantages.

Method One involves prolonged exposure (one to six months) of the pouch, followed by gas analysis of the internal pouch atmosphere, or moisture analysis of the pouch content if the pouch is only to afford resistance to moisture transfer. The disadvantages of this method are: (a) it is impossible to obtain information on pouch quality within a reasonable time, hence it is not a production-control procedure; (b) the test does not determine the type or location of the leak, and (c) the test is very time consuming and destroys the pouch.

Method Two involves the submersion of the test pouch under water in a test chamber followed by subsequent reduction of the pressure in the chamber and observance of the presence of leaks as indicated by a stream of bubbles. This method would appear to be similar to the internal-pressure method. Actually it is a less severe treatment and is prone to produce erroneous results. The disadvantages are: (a) the pressure differential between the interior of the pouch and the surrounding atmosphere of the test chamber is negligible if the pouch is unrestricted, hence small leaks will not be detected; (b) trapped air between the layers or within the paper will appear as a leak, yet actually is not one, and (c) the method is time consuming. This method does not destroy the pouches as does Method One and the recommended internal-pressure method, so that if submersion in water does not damage the lamination, the pouch can be re-used. This non-destructive feature of Method Two fails to offset the fact that the test is not creating the apparent or desired conditions.

The difference between the internal pouch pressure and the chamber pressure was measured on unrestricted and restricted pouches to determine the actual pressure variation developed in test Method Two. The results of these tests are shown in Table II.

These results show the expected lack of pressure differential between the test pouches and chamber on either the restricted or the unrestricted sample. It also seems virtually impossible to create a pressure differential of 3 to 4 p.s.i.g. (6.1 to 8.2 in. of mercury pressure)

POTDEVIN '111'
HIGH SPEED
CELLOPHANE
BAG MACHINE

The "111" makes:
- Full lip pasted bags.
- Pasted flush-cut bags with thumb cut.
- Combination shirt bags with thumb cut.
- Heat seal and pasted bottom with shallow lip.
- Heat seal and pasted bottom with flush-cut (with thumb cut).

Range: 2" x 6½" up to 10½ x 16¼"

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POTDEVIN MACHINE CO.
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Molding and engraving rubber from "U. S." assures the finest printing results. Why? Because "U. S." grows its own natural rubber, compounds its own synthetic rubber and has complete control of manufacture all the way. It has the vast resources, the experience, and the skilled technical staffs.

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INTRODUCTION

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Consider the Hazel-Atlas Glass Container and the Consumer:

It may be your product itself displayed in its own smartly designed **H-A** show window that first attracts attention.

It may be the **H-A** lithographed closure *(A new recipe often starts a sale).*

It may be your label *(**H-A** glass packages are designed to display labels to the best advantage).*

Or, it may even be the obvious easy handling or the re-use value of your **H-A** glass container which makes her reach for it.

There are 32 Hazel-Atlas sales offices and 14 factories. Their business is to get your product home in glass. The nearest one is at your service.

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CAPPERS
a model for every purpose . . . a speed for every need!
NEW! INNERSEALER
Tops them all

RESINA
Automatic innerseal machine for selecting and applying standard innerseals to various types and sizes of tin cans as commonly used in the oil industry.
Capacity: 60-120 per minute.
Seals from 7/8" to 1 1/2".
AND SPECIAL MACHINERY
Agents in principal cities throughout the United States and Canada.
Write for descriptive literature
RESINA
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Brooklyn 31, New York

in the vacuum chamber and still have a practical production-control test method.

Summary

The described internal-pressure method of determining flexible-pouch tightness is a reliable, fast and informative method of testing pouch quality. This method overcomes many of the disadvantages of other existing test procedures and is practical as a production-control test method.

Acknowledgments

The author is indebted to the late Dr. F. J. Rudert for his guidance during the development of this method and to Harry Zellmer, Leonard Bentzien and Malcolm McNaughton for their assistance in developing and proving the test apparatus.

Bread buying survey

Brand loyalty is "higher than average" among purchasers of white bread, finds a filmed survey whose results have just been released by Marathon Corp., Menasha, Wis. Out of 856 shoppers whose actions were recorded by concealed movie cameras in supermarkets, 74.5% stated that they planned to purchase a specific brand of white bread.

Other results of the study, which is entitled "They Buy by Eye" and is the fourth in a series of filmed records of consumer shopping actions undertaken by Marathon include:

- Of the shoppers who made an "impulse purchase" of a food product 72.3% said that they were attracted to the product by the picture of the food on the package.
- When they looked for a particular product, 78% admitted that they looked for the picture of the product before they looked for the printed name of the product on the package.
- Of the shoppers interviewed, 61.5% approved of the idea of picturing serving suggestions on packages.
- Only 36% of shoppers squeeze a loaf of bread to test its "freshness" (in a 1950 survey, 44% did this).
- A slight increase was noted in the percentage of shoppers purchasing more than one loaf of bread, as compared with 1950.

Thanks for Encycs

Nearly 700 students of packaging in 17 schools and colleges are now equipped with a *Modern Packaging Encyclopedia*, thanks to the fine response of subscribers to a postcard appeal enclosed with the 1956 edition last fall.

Readers who had no further need for the previous edition were invited to send it on to a school or college address supplied on request by MODERN PACKAGING. The response was such that nearly all colleges received the full number of Encyclopedias that they had asked for.

Warm letters of gratitude have been pouring in to MODERN PACKAGING ever since, from instructors and students, with requests that thanks be conveyed to the subscribers who cooperated. "If you could have seen the expression of gratitude on the faces of the undergraduate students . . ." says one letter. Other comments: "A wonderful plan . . . hope you are able to continue it . . .Makes our teaching efforts more effective. . . . Sincere appreciation."

The plan will be continued this year, when the Encyclopedia for 1957 comes out in the fall. Again, there will be a card inside the front cover explaining the plan, with a perforated return postcard addressed to MODERN PACKAGING requesting an address label for the old book, which can then be shipped on in the same carton.

The Kaynee boys

[*Continued from page 107*]

indication of, the product. Tags, labels, displays, posters and counter cards were nondescript and lacked a unifying theme.

Kaynee's boxes, all of which are of rigid, set-up construction, had drab and old-fashioned coverings that could just as well have contained work gloves or penny candy.

The designer first studied the entire Kaynee operation from the factory through all phases to the retail counter. Delving into company records he hit pay dirt in the advertising files. Starting about 1915, Kaynee had occasionally used illustrations of three boys whose apparent ages corresponded to the three Kaynee age groups—two to six, six to 12, and 12 to 16.

The theme had not been exploited

on *any* PACKAGING MACHINE there is a place where IMS SILICONE FLUID SPRAY WILL CUT YOUR COST

Anywhere Any Packaging Material Tends to Stick . .

IMS SILICONE SPRAY will cut your scrap and stoppage rate—Save You Money! Try it on your packaging line—you'll see why almost overnight this amazing anti-stick material has become a necessity in the modern high-speed packaging field!

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. . . all styles, all sizes, produced with fine materials: Polyethylene, Vinyl, Laminates and other flexible films — all at surprisingly LOW PRICES!

***Double-Seal Guaranteed Safety . . .**

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"TWIN-SURE" DOUBLE-SEAL
straight bottom liners

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round bottom liners

. . . originated and manufactured by the pioneers in plastic-liners for steel drums, fibre containers, cartons and boxes . . . successfully tested and proven satisfactory for protective packaging by many of America's leading manufacturers, processors and laboratories.

. . . here are just a few users of protective liners:

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National Lead Company
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the all-new electronic
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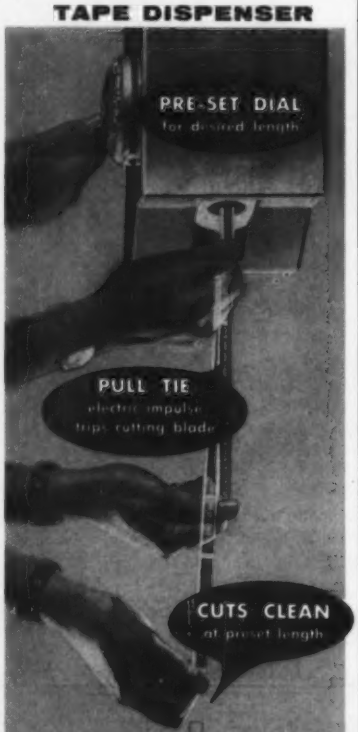

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Now—fresh, clean Plas-Ties or Fas-Ties instantly available in desired length without fumbling through unwieldy precut bundles for the right size! Plas-Tie Matic stores up to 1000 feet of continuous tape — delivers proper length to operator's hand — ready to wrap and "twist" without wasted motion. You'll speed up the packaging process whatever your operation — faster and better!

★ Engineered for heavy-duty production
★ Precision-made for perfect service

Write now for complete information

plas-ties company
SANTA ANA, CALIFORNIA
Manufacturers of Plas-Tie bag closures and Fas-Tie paper "twists"

and had been used only sporadically. The artwork had never been made uniform, or the boys presented as recognizable characters. Properly developed, the company decided, the boys could become symbols for the Kaynee line, its scope and the company itself.

The matter of approach was the next problem. Kaynee derives its volume from its representation in leading stores in small cities across the nation rather than from relatively few stores in big cities. Hence a slick modern treatment was out. A wholesome, open-air atmosphere was indicated. A top-notch illustrator was commissioned to paint the three Kaynee boys as healthy, typical American boys, somewhat in the manner of the Norman Rockwell illustrations.

The illustrator came up with three boys and a dog—the oldest a teenager with a crew cut, the youngest a freckle-faced six-year-old, and the middle one a fun-loving 10-year-old. Three paintings were made: "back-to-school" scene for fall and winter, a kite-flying scene for spring and summer, and a non-seasonal picture of the heads of the Kaynee boys and the dog. This last painting, together with the Kaynee name, forms the new Kaynee trademark.

The company retained its set-up boxes because of the sturdiness, quality appearance and ease of handling on retail shelves where a container must stand up under frequent opening and reclosing. A modular box system was instituted whereby the numerous lengths and widths were standardized to accommodate one standard-sized telescoping cover to fit all the boxes. Size variations of the boxes, it was found, could be met simply by varying the depths of the boxes and planning the folding of the garments to the various box depths. By this procedure, the number of box sizes was reduced nearly 50%. Economies in printing costs of the wraps were effected because the same four-color plates were the right size for all box covers.

The new box wraps with seasonal scenes, plus the trademark, were applied to all the boxes. All existing company printed matter was scrapped and the trademark, in four colors, now appears not only on the packages and display material, but also on Kaynee's letterheads, envelopes, labels, hang tags, invoices and even bank checks. After the first year of use in dramatizing the new Kaynee personality, the seasonal box covers will be replaced by a standard cover featuring the trademark.

Since the emergence of Kaynee as an identified brand about eight months ago, the company has followed through in exploiting the trademark in all its ads, its mat service to dealers, its plaques, counter cards and other point-of-sale material. All its window-display designs, supplied free to retailers, feature the Kaynee boys with the dog and life-size manikins of them are available for promotional windows. Special packages for promotions like the current transparent acetate "Cannon Cracker" tube package for knit shirts and swim trunks, emphasize the new Kaynee trademark.

The past year was the biggest that Kaynee has ever had. And, although company officials attribute this primarily to a combination of quality and fashion leadership in a field which has become extremely style conscious, they are sure that the new company identity also contributed to the all-time high in sales.

The volume increase in turn has accelerated the establishment of the new Kaynee identity in the public mind which the company is certain will influence sales upward on a long-term basis.

Some indication of the extent and effectiveness of the identification of the company with its new trademark is contained in a recent query received by Kaynee from Pakistan. It was addressed: "Kaynee Company, Boys-and-dog-brand, Cleveland, Ohio, U.S.A."

Credits: *Design program by Robert Zeidman Associates, 128 E. 56 St., New York. Illustrations by Bob Childress, Saybrook, Conn. Lithographed box wraps by Eastern Colortype Corp., Clifton, N. J. Set-up boxes by The Great Lakes Box Co., 7275 Wentworth St., Cleveland, Ohio, and Paragon Box Co., 745 Trabert Ave., N.W., Atlanta, Ga. Labels and tags by Dennison Mfg. Co., 300 Howard St., Framingham, Mass. Transparent container—transparent part by American Cellubox Corp., 27-01 Bridge Plaza N., Long Island City, N. Y., using acetate supplied by Monsanto Chemical Co.; paperboard sections by Harcord Mfg. Co., 125 Monitor St., Jersey City, N. J.*

fisher's foils

keep sales soaring!

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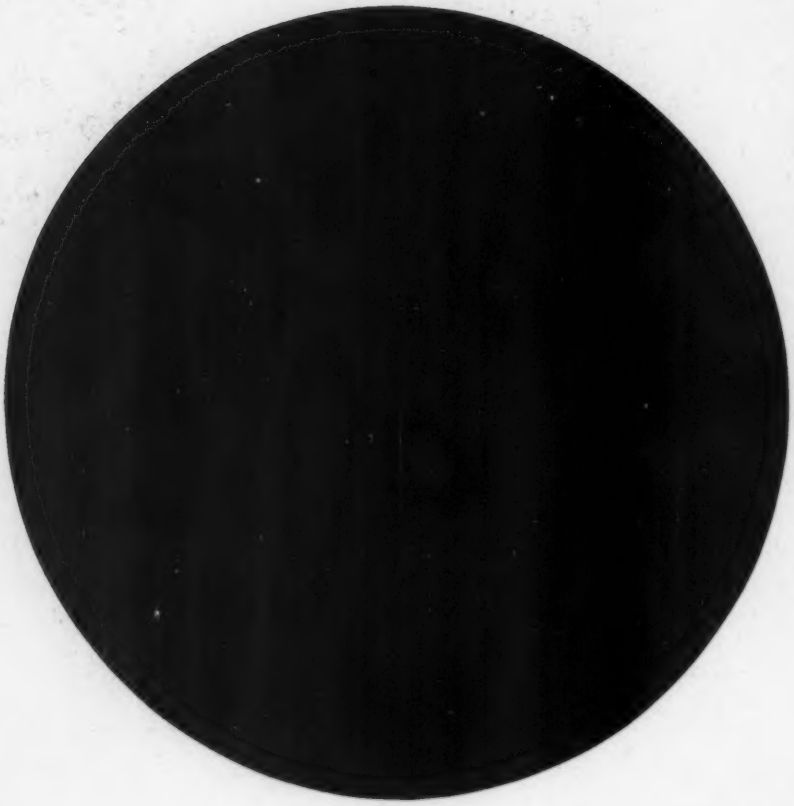
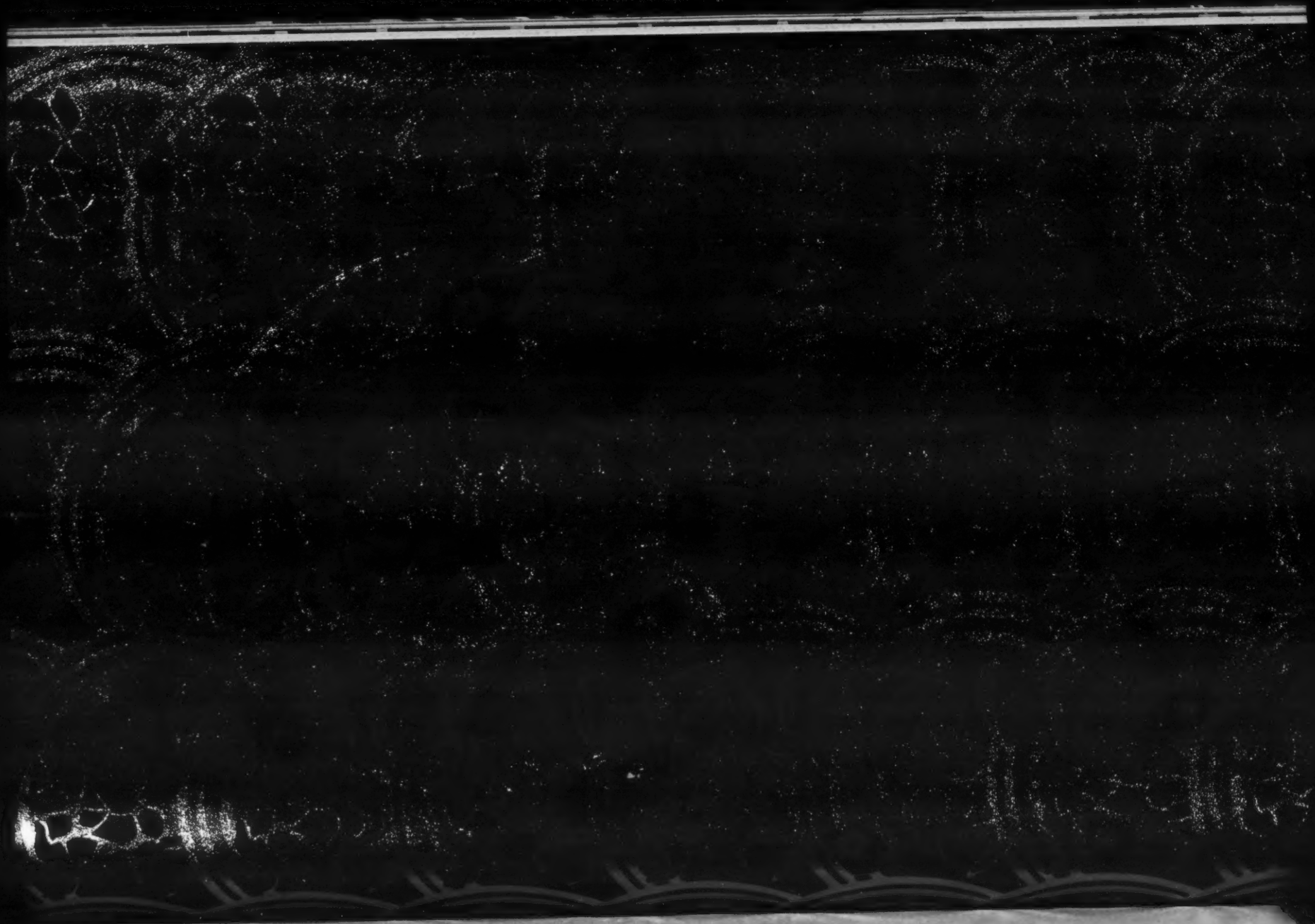
TELEPHONE WEMBLEY 6011 CABLES & GRAMS LIOFNIT WEMBLEY (ABC CODE 6TH EDN)





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Throughout all stages of manufacture, every roll of foil made by Fisher's Foils of England is *automatically controlled* for gauge consistency by the latest beam gauge. Send today for wide range of samples or ask our representative to call.
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foils

PMMI makes plans

Arrangements are being made by the Packaging Machinery Mfrs. Institute for more effective "action" display of equipment at its first Packaging Machinery & Materials Exposition. The new show will take place in Cleveland, Sept. 11-14, with the 18th Annual Forum of the Packaging Institute being held in the same city on Sept. 10-12.

W. B. Bronander, Jr., Scandia Mfg. Co., chairman of the PMMI show committee, reports that 75% of the 50,000 sq. ft. of available exhibit space now has been contracted for by 108 exhibitors. He told members of the Institute at their recent semi-annual meeting that facilities will be set up at the show for supplying materials for packaging demonstrations and the removal of finished packaged products.

Bronander

Mr. Bronander said that this arrangement will "add to the effectiveness of exhibitors' demonstrations, since the exhibits will be actual working operations with nothing left to the imagination of visitors as to how the machinery operates and how materials are used."

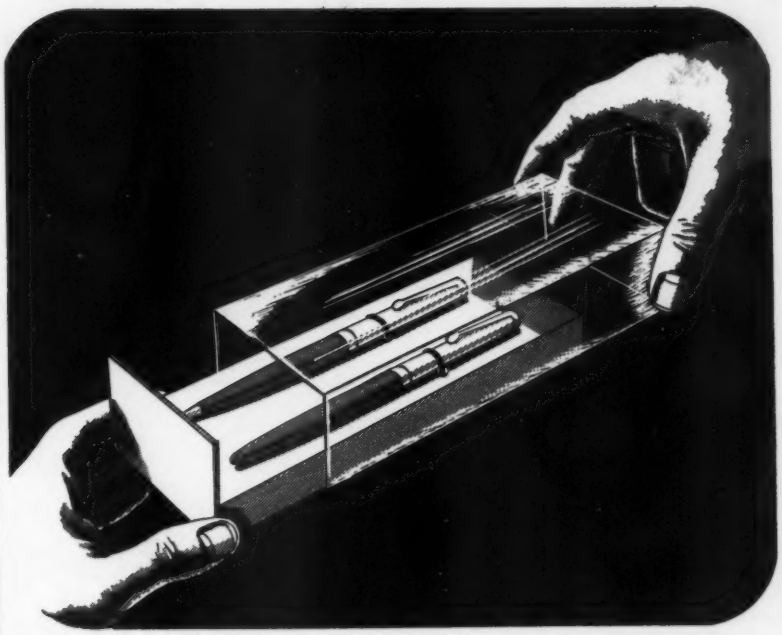
Plastic-tray tomatoes

[*Continued from page 129*]

material, thus keeping them within bounds from the cost standpoint. Basically, they consist of a skeleton-like framework having tapered sides and ends which hold the tomatoes in place and provide sufficient rigidity to permit handling at high speed on automatic wrapping machines. Actually, much of the strength of the finished package is derived from the heat-sealed cellophane overwrap. The bottom surface of the tray is designed with a series of cross ribs and circular rings which help to hold the fruit in position. Trays are made in both three- and four-unit styles; since Chicago is primarily a "four tomato" market, most of the trays used by Berky are of this size.

Due to the tapered design of the molded plastic trays, the empty trays nest closely, requiring relatively little shipping space. Trays are shipped to Berky in corrugated containers holding 500 units; within

[*Continued on page 253*]



Transparent sleeves

by TRAND Plastics Company

The transparent all-plastic sleeve shown here, made on high-speed equipment from our own extruded sheet, is a natural with paperboard trays of either folding or set-up box type. It can also be used with our plastic trays formed to fit your product.

The combination of this transparent sleeve and a tray gives you full visibility for your product and a cover which won't fall off. This increasingly popular and successful transparent package may be the answer to your problem. Why not drop us a line for further details? We would be happy to send them to you.

Transparent cartons Vacuum formed packages
Transparent sleeves Extruded sheet

"THE TREND IS TO TRAND"

TRAND PLASTICS COMPANY

40 BELDEN AVENUE NORWALK, CONNECTICUT

You don't need experience or equipment when contract fillers load your aerosol product

Even if you haven't any previous experience, you can put your product in an aerosol package. Contract loaders have the know-how and necessary specialized equipment to do the job for you. Contract fillers can help you with product evaluation, formulation, testing, container selection and labeling, filling, packing and shipping. Du Pont can help you select loaders best equipped for your needs.

If your product can be brushed, poured or sprayed, it may lend itself to aerosol packaging. Why not find out more about this sure way to improve your product's appeal—and sales? For more information or technical assistance mail the coupon or write to E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals Division, 2420-13 Nemours Bldg., Wilmington 98, Delaware.

"Aerosols outsell other touch-up paints 3 to 1," is reported by a Mt. Healthy, Ohio, hardware retailer. Ease of use has made aerosol touch-up paints a favorite with consumers. Consumer appeal of aerosols could add new sales success to your product.

"Aerosol packaging boosts hair fixative sales 800%," reports a Des Plaines, Illinois, pharmacist. Sales success of aerosol hair fixatives is one of today's most remarkable marketing stories. Your product in an aerosol could pile up sales records, too.

IN AN AEROSOL PACKAGE

Here's how Du Pont can help add the profit-producing aerosol idea to your product

The growing variety of aerosols featured by retailers today offers convincing evidence of the profit potential in aerosol packaging. At the point of sale, retailers know consumers prefer the aerosol method of dispensing. Again and again, new sales spark has been added to an old product and immediate consumer acceptance gained for a new one by putting it in an aerosol package. You can profit, too, by packaging your product in an aerosol dispenser.

One of the surest ways to succeed with an aerosol is to call in Du Pont to help you get started. Since the original aerosol insecticide was developed, Du Pont has worked closely with marketers and aerosol loaders to help in producing top-quality products. Annual Du Pont market surveys have spotlighted trends in aerosol sales for marketers and distributors. This accumulated experience of laboratory experts and marketing specialists is on tap to help you get started in aerosols.

In assisting you with your aerosol-formulation problems, Du Pont can help you select the best "Freon"* propellent for your product. "Freon" propellents are ideal for aerosols, because they are safe—nonflammable, nonexplosive and virtually nontoxic. "Freon" propellents are pure—Du Pont's 25 years' experience manufacturing "Freon" compounds assures the utmost in purity and quality. There is sure to be a "Freon" propellent ideally suited to your aerosol product.

Find out more about aerosol packaging and what Du Pont can do to help increase consumer acceptance of your product. Send for your copy of the informative booklet "Package for Profit." It's free—mail the coupon today.

KINETIC

FREON

SAFE PROPELLENTS

**"Freon" is Du Pont's registered trademark for its fluorinated hydrocarbon propellents*

DU PONT

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Better Things for Better Living... through Chemistry

E. I. du Pont de Nemours & Co. (Inc.)
"Kinetic" Chemicals Division
Room 2420-13 Nemours Building
Wilmington 98, Delaware

- ☐ Please send me your booklet on aerosol packaging, "Package for Profit."
- ☐ Please send me market-research data on aerosols.
- ☐ I want to learn how I can get technical assistance on aerosols.

*Name*_____ *Position*_____

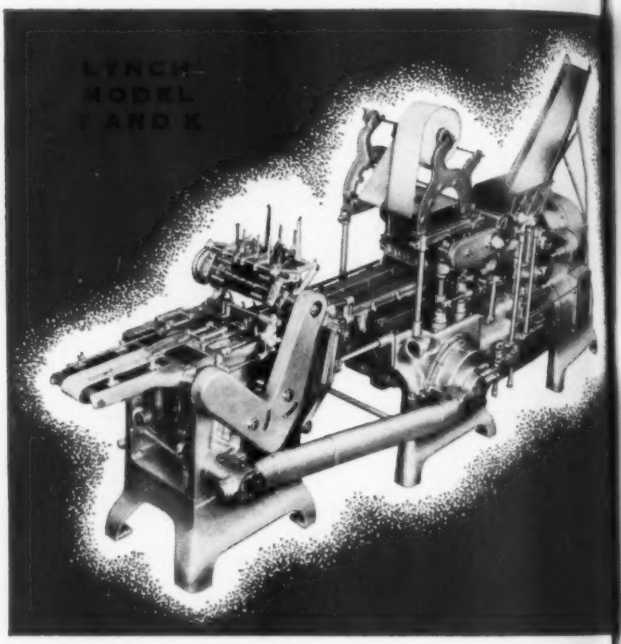
*Company*_____

*Address*_____

*City*_____ *State*_____

185

THESE FINE PRODUCTS, AMONG THE NATION'S LEADERS, DESERVE (AND GET!) LYNCH PACKAGING



HERE'S *why*

speed in operation . . .

Lynch T & K packaging machines, standard in the industry for many years, print and package an average of 3600 lbs. of butter an hour. In many print rooms this would mean over 7,000,000 lbs. per year on a one-shift basis – with an absolute minimum of down time. No other butter packaging equipment can offer the speed and related advantages of the Lynch T & K.

economy in production . . .

The fully automatic operation of the Lynch Model T & K in print forming, wrapping, cartoning and overwrapping minimizes labor and production costs, cuts waste and product loss. Evidence of the durability of the T & K is found in some of the first models manufactured – still in trouble-free operation after long years of day-after-day efficient production.

ANDERSON, INDIANA

Branches–New York • Toledo • Chicago • San Francisco
Los Angeles • Atlanta • Dallas • Toronto
Export Dept.: Anderson, Indiana

LYNCH CORPORATION

PACKAGING MACHINES

[*Continued from page 249*]

the box they are divided into groups by means of paperboard separators at intervals. This provides increased protection and facilitates their removal from the boxes. A full box of 500 trays weighs only about 25 lbs.

In comparison with paper trays, the plastic trays sell to packers at a premium of from 1½ to 2½ cents each, depending upon prevailing market conditions.

Tomatoes received from the ripening rooms are hand packed in the trays. As the loaded trays approach the two automatic wrapping machines, they switch to an infeed conveyor which carries them into the machines in a sidewise position, with each tray tightly against the next in line. Moving into the wrapping machine, the trays contact tapered guide rails which prevent them from buckling or lifting under pressure of the moving line. These rails—the only equipment modification required on the Berky machines—are necessary because, due to the tapered walls of the trays, they contact one another only at the top when pushed closely together. With only minor adjustments of the guide rails, Berky can run either plastic or paperboard trays interchangeably on the wrapping machines.

The automatic wrapping equipment elevates the loaded trays individually and wraps them at a rate of 90 packages per minute in printed LST cellophane, forming a longitudinal seal at the bottom and heat sealing the folded wrapping material at each end of the package. Printing on the continuous rolls of cellophane, although sufficient to provide adequate trademark identification, is kept to a minimum so that the tomatoes are obscured as little as possible by the overwrap.

Upon emerging from the wrapping machines, the finished packages are lined up in groups of 10 by an operator and placed in the corrugated "flats" or one-piece-style shipping containers. Just prior to this final operation, the trays are inverted so that they can be visually inspected—top, bottom, sides and seals—by the operator. With the machines running at 90 packages per minute, four packers and an inspector are required to keep the output moving smoothly off each packing line.

Credits: *"Seequal-Pak" plastic trays molded by Gilbert Plastics, Inc., Hillside, N. J., on Reed-Prentice injection molding machines. Model FA automatic cellophane wrapping machines by Package Machinery Co., East Longmeadow P. O., Springfield, Mass. Printed cellophane overwraps by Crystal Tube Corp., 6625 W. Diversey, Chicago 35: Cellu-Craft Products Corp., 1401 Fourth Ave., Hyde Park, N. Y., and Bagcraft Corp. of America, 4501 S. Kildaire Blvd., Chicago. Corrugated shipping containers by American Box Board Co., 470 Market St., Grand Rapids 2, and Fruit & Produce Packing Co., Div. Inland Container Corp., 700 W. Morris, Indianapolis.*

Housewares—an Industry Survey

[*Continued from page 118*]

overwraps; a special display rack for showing them off.

Boonton Molding Co. Lithographed display sheets showing complete assortments of plastic dinnerware, for the retailer to attach to cartons used as counter displays.

Plastics Mfg. Co. Gift cartons holding 16-piece starter sets of plastic dinnerware; five-piece accessory sets.

Ace Products Co. Stainless-steel kitchen utensils in sets and barbecue equipment in gift cartons that show products as they would appear in actual use.

Magla Products. Ironing-board covers in four-color rotogravure-printed cellophane envelopes.

Easy Day Mfg. Co. Plastic sweeping pans with long handles in unusual printed cartons that can be read from either of two directions.

Cory Corp. Beautiful "high-style" gift cartons holding a pair of "his and hers" beverage warmers.

Columbus Plastic Products, Inc. A plastic knife rack packed in a special die-cut carton that is printed to simulate the rack in actual use, with illustrations of knives matching slots on the actual rack.

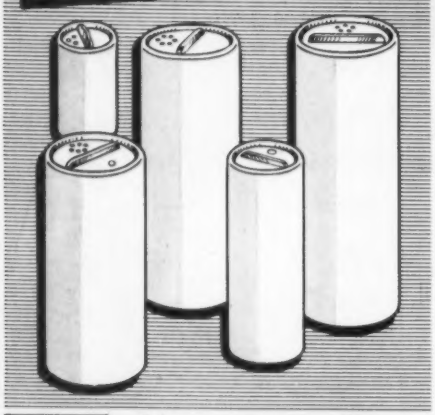
Libbey Glassware. "Take-home" cartons holding sets of six drinking glasses; transparent-wrapped tray packs of glasses.

Olympic Metals Corp. Sets of three stainless-steel covered food bowls packed in acetate tubes.

Although the number of types and

THEIR SMARTER APPEARANCE AND GREATER CONVENIENCE ARE

Your Sales Insurance



NIEMAND BROS.

SIFTER TOP PACKAGES

No wonder smart merchandisers specify NIEMAND BROS. Sifter Top Tubular Packages. Consumers prefer their greater convenience and smarter appearance, yet they cost surprisingly little. They're available printed, plain or labeled in sizes ranging from miniature to standard.

Illustrated literature showing many interesting tubular package applications, available on request.

NB NIEMAND BROS., INC.

Manufacturers of Paper Tube Products

37-01 Thirty-Fifth Avenue • Long Island City 1, N. Y.

A Niemand Bros. "Packaging Engineer" will be glad to consult with you on your Package problem.

GENERAL THE MOST DEPENDABLE LINE . . .

THE BEST TAPE SEALER OF SHIPPING CONTAINERS, A NATURAL FOR RULE 41.

AUTOMATICALLY TAPES 25 OR MORE CASES PER MINUTE, SINGLE-STRIP, TOP AND/OR BOTTOM FLAPS ONLY, PLUS END-PANELS, IF REQUIRED. "IT'S ALWAYS READY." TAPE ALSO DUST AND PILFER-PROOFS. MACHINE LENGTH 7 FEET, MINIMUM.

GENERAL'S ONE-MAN BOTTOM FLAP GLUER OF UNFILLED CARTONS IS "THE BEST YET." DOES MORE AND BETTER FOR LESS. ONLY 5′ WIDE BY 9′ LONG.

GENERAL'S CASE SEALERS HAVE ALL THE DESIGN FEATURES THAT ENGINEERED THE UNEQUALLED "GENERAL LINE" FOR TAPING OR GLUING THE "MANUFACTURERS-JOINT" IN CONTAINER MANUFACTURING PLANTS THROUGHOUT THE INDUSTRY. IT'S REALLY WISE TO GENERAL-IZE.

THE BEST NAME IN TAPING AND GLUING

General Corrugated Machinery Company, Inc.

Palisades Park • New Jersey

varieties of housewares on the market seems to multiply almost daily, one group which has had a most phenomenal rise is housewares produced from plastics—particularly polyethylene and polystyrene. A recent survey of the Monsanto Chemical Co.[6] reveals that in just three years, from 1952 to 1955, the retail value of plastic housewares jumped from $101 to $196 million—an increase of almost 100%. One of the most important factors in this rise has been the healthy spurt in the production of so-called "big-ticket" polyethylene items, such as basins and garbage pails.

Several recent trends in the plastics industry possibly point the way to an even greater future for plastic housewares. The growing list of large industrial firms getting into the field, the development of a number of new types of polyethylene, the increasing emphasis on better design and workmanship—all these should be considered.

[6]See *Housewares Review*, Feb., 1956, p. 64.

New food board mill

A new mill for producing bleached food board, said to be the first plant of its kind in the nation, has been opened by The Crossett Co. in Crossett, Ark. Using a new manufacturing process that was perfected in Crossett's research laboratories, the mill utilizes a combination of kraft pine pulp and hardwood pulped by the semi-chemical process to produce the board from which milk cartons and paper cups are made.

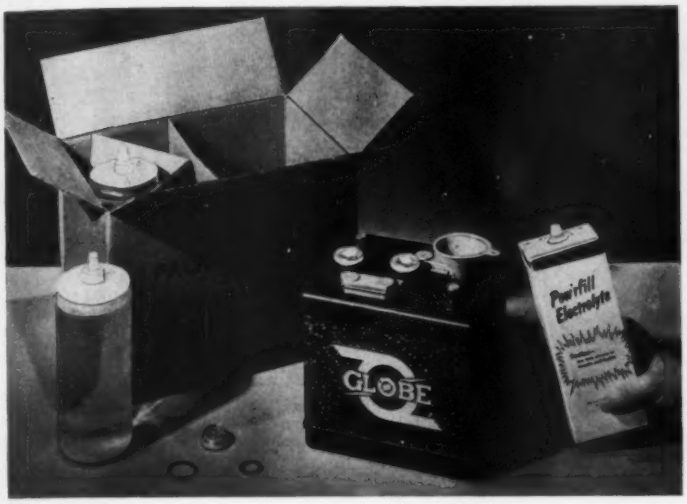
The new mill reportedly points to a whole new range of markets for some grades of hardwoods for which there have been available only very limited and unprofitable markets in the past.

It is believed that this may revolutionize papermaking and open the door to the use of the country's vast resources of low-grade hardwood timber particularly in the Southern forest areas.

Costing $16 million, the mill will employ 200 persons. Its daily production of bleached food board is estimated at 150 tons—or a strip of board 17 ft. wide and 55 miles long. Its equipment includes a 216-in.-wide cylinder machine said to be one of the two largest in the world for making this type of product.

Battery acid in polyethylene bottle

Another new approach to the packaging of battery acid has just been developed by Globe-Union, Inc., Milwaukee, Wis. This method incorporates a sealed polyethylene bottle containing the correct amount of electrolyte and the dry-charged battery in one compact corrugated unit.



Components of Globe-Union's battery-acid packaging are polyethylene bottle, paperboard sleeve to handle bottle for safe pouring and corrugated shipping container.

The purpose of this technique is also planned for the shipping and storing of the complete dry-charged batteries in a single carton. Further objectives are: to effect savings in original shipping costs over heavier, less durable containers and, by means of disposable bottles, to avoid the rehandling and reshipping of acid bottles that must be returned for refilling.

The pre-measured quantities of battery acid in the individual polyethylene bottles assure proper filling of each battery cell. The company maintains the bottles are simple and easy to open. A paperboard sleeve is provided to handle the bottle for safe pouring.

Batteries packaged in this manner, the company says, can be stored safely and indefinitely in quantity. They provide an attractive display in the showroom and are always ready for immediate consumer service.

Activation of the new packaged dry-charged battery takes place when the electrolyte from the polyethylene bottle is added. As in the case of the polyethylene-bag package for the electrolyte, there is no loss of battery life during storage and there is no problem of loss of inventory due to loss of strength from factory to dealer's shelf to user. And the annoying problem of the "trickle" charge to keep the battery to standard strength during storage periods is completely eliminated.

Credit: *Polyethylene bottle by Plax Corp. 672 Farmington Ave., West Hartford, Conn.*

Battery acid in a polyethylene bag

[*Continued from page 111*]

duced from convolute-wound kraft fibre. Three of the canisters are packed together, side by side, in a flat corrugated shipping carton, to provide a full load of electrolyte suitable for any type of six- or 12-volt batteries.

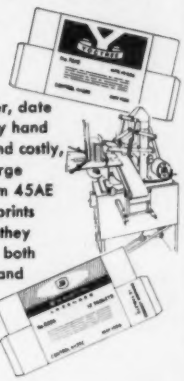
After the container is emptied of its contents, users are warned before discarding it to flush out the empty bag with running water, since any remaining drops of electrolyte might prove dangerous.

Credits: *Metal-end fibre cans by Sefton Fibre Can Co., 3275 Big Bend Blvd., St. Louis 17, Mo., Polyethylene bags by Clear View Bag Co., Anderson, Ind. Corrugated shipping cartons by Container Corp. of America, 38 S. Dearborn St., Chicago 3.*

MARKEM

solved these marking problems

imprinting flat boxes

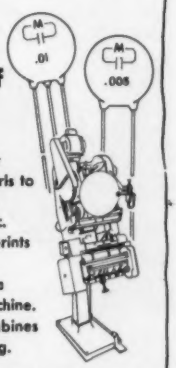


. . . with batch number, date and product detail by hand stamping was slow and costly, meant maintaining large inventories. A Markem 45AE machine now feeds, prints and stacks boxes as they are needed, saving both inventory costs and hand stamping time.

decorative marking on plastics

. . . required application of gold color to raised designs on a plastic vanity set. Markem recommended a 25A machine equipped with sponge-mounted rubber printing plates for the job. Boxes, mirrors, combs, and brushes are now attractively marked, with a single impression.

identification of flat capacitors



. . . by an electronic component manufacturer formerly required 12 girls to hand print data such as capacity, trademark, etc. The manufacturer now prints them in gang strips, at production rates, using a single Markem 25A machine. A cutter attachment combines lead cutting with printing.

Need *better* product, part or package marking?

Call Markem Machine Co. Keene 1, New Hampshire

MARKEM ...TO MAKE YOUR MARK

New utility for metal-end fibre cans

[*Continued from page* 137]

vice.* This is produced from several layers of heavy kraft wound in circular fashion, with a string imbedded around the center of the cylinder. The biscuits themselves are wrapped in a pleated, expandable foil liner, which retains control over them during the opening process. When the string is pulled, the two ends of the can separate and the built-up pressure from the released carbon dioxide causes the biscuits to be forced to the extremities of the liner. The two halves of the can may then be quickly pulled apart.

This convolute-type can at present is used by Ready-to-Bake Foods, Inc., Los Angeles, for Puffin Biscuits and Puffin Buttermilk Biscuits.

Lap wound

Most recently developed package for this type of biscuit is the single lap-wound container†. Constructed along lines very similar to a tin can, this has a body made from a single ply of laminated aluminum foil and bleached kraft paper. A heavy wax coating is applied to the surface of the inner foil to cover any pinholes and add to the gas retention of the container.

An overlap of about 2 in., in the shape of a broad triangle, forms the seam in the can's wall. When this is pulled, the entire length of the can is opened at once, exposing all 10 biscuits. With this type of can, no separate foil liner is needed.

The lap-wound can at present is being used for biscuits made by The Borden Co., New York.

New uses

There are a number of additional uses for the fibre can with metal ends in the bakery field, but none has the peculiar problem of having to control built-up pressure in its contents. So, for these other products, more conventional opening and dispensing devices may be employed. Some examples are:

Animal crackers. Sunshine Biscuits, Inc., New York, is packing animal crackers in a spiral-wound fibre tube with glassine liner and tight-fitting, slip-cover metal lid.

Cookies. Long, slim, spiral-wound fibre cans are now in use by a number of manufacturers of wafer sandwiches, cookies and other baked specialties. These often use foil outer wraps and have tight-fitting metal lids.

Teething biscuits. The H. J. Heinz Co., Pittsburgh, has introduced horseshoe-shaped babies' teething biscuits in a convolute-wound can with tear-string opener.

Bread crumbs. Ward Baking Co., New York, is one of several bakers who have introduced bread or cracker crumbs in spiral-wound fibre cans with metal shaker tops. Aluminum foil wrappers on these packages help keep the contents crisp during shelf storage in the user's home.

Credits: *Spiral-wound cans (Pillsbury, Ballard) by R. C. Can Co., 9430 Page Blvd., St. Louis 14. Tear-string cans (Puffin, Heinz) by Sefton Fibre Can Co., 3275 Big Bend Blvd., St. Louis 17. Lap-wound cans and Ward can by American Can Co., 100 Park Ave., New York 17. King Kone Corp. can by United Can Co., Inc., Phillipsburg, N. J.*

*See "Zip-Open Biscuits," MODERN PACKAGING, May, 1954, p. 130.

†See "More Easy-Open Ideas," MODERN PACKAGING, July, 1955, p. 108.

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FOR SALE: Markem Model 45A printing machine; serial #263. Practically new condition. $250.00 complete with stand, font, and special spring-cushioned bed-plate for ticket printing. Linen Guild Inc., 245 Fifth Avenue, New York City.

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Colts Rite Size Corrugated Machine, Serial No. BM140, Colts Rite Size Printer, Serial No. PR108, Universal Semi-Automatic Taper, Serial No. 6578, 3 years old. Limited use. Excellent condition.
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PLASTIC SALES ENGINEER: We are seeking a well qualified man experienced in plastics extrusion for attractive Market Development position. Kindly give your education, experience, and expected salary in complete resume. All replies will receive careful attention and will be held confidential. Write: 108 Personnel Department, Chemical Division, Koppers Company, Pittsburgh 19, Pa.

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REPRESENTATIVE WANTED: Fast-growing, high quality, printer-converter of Polyethylene bags, side-weld, round bottom, and standard constructions has few territories open to aggressive idea-minded salesmen. Desire representation in Carolinas, Philadelphia, Cleveland and upper New England states. Agreeable to non-conflicting lines. Straight commission on 6½% basis. Complete Art and Design Department available plus experienced packaging staff. Send complete resume—territory covered, lines carried; all replies confidential. Act Now! Box 402, Modern Packaging.

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SALES REPS.—MFRS'. AGENTS: Several choice territories open on flexible packaging with AAA-1 Plastic Company—see announcement page 225. Openings also for Sales Promotion Assistant and sales correspondents. Amos Packaging, Edinburg, Indiana.

EXPERIENCED OPERATORS: Bagmaking mach'y or flexographic presses. To staff regional offices of leading converting equipment manufacturer. Additional training will be supplied if you possess basic knowledge in either category. Send complete information and experience. All replies confidential. Our staff knows of this ad. Box 405, Modern Packaging

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WANTED — MECHANICAL ENGINEER: Kentucky location of national concern has excellent permanent situation in plant engineering department for mechanical engineer with approximately two years experience in operation and maintenance of automatic bottling and labeling equipment. Must have desire for early recognition of ability and performance since position open is in direct line for possible early advancement to greater responsibility in engineering or production. No traveling required. Attractive starting salary. Excellent benefit program. Please submit complete resume, including details of education and experience and state starting salary required. Your reply will be held confidential Box 411, Modern Packaging.

(Continued on page 260)

Build Up Your Impulse Sales

Almost half of the shoppers at the frozen food display make their choice by impulse. You can increase your share of this "found" business by using the wrap that has beauty to attract sales and durability to keep looking attractive. This new wrap contains A-C* POLYETHYLENE, a tough, easy-to-handle polymer.

All types of wrapped packages will benefit from the use of high-gloss wrappers coated with A-C POLYETHYLENE-wax combinations. The glossy finish and luxurious feel of these lower-cost paper wrappers is amazing, and yet the cost is as much as 45% less than other glossy materials. Why pay premium prices for gloss when these super-gloss wraps are now available?

Write for more information on A-C POLYETHYLENE-wax coated wraps today.

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Please send me information on A-C POLYETHYLENE blends and the name of converters who can supply me.

Name_____

Company_____

Title_____

Address_____

City_____ Zone____ State_____

(Continued from page 258)

Situations Wanted

MIDWEST CONVERTER: Supplying Polyethylene and other flexible packaging materials since 1911, has several openings in territories exclusive of East and West coast. Commissions paid on all sales in territory. Reply, giving lines carried and manufacturers represented. Box 417, Modern Packaging.

PACKAGING ENGINEER: Leading manufacturer in the drug and surgical dressings field has opening for a man interested in the development of new packages. Work includes design of packages for sales appeal, protection, and automatic production. Industrial design or engineering background helpful. Plant located within commuting distance of the New York Metropolitan area. Box 418, Modern Packaging.

MFRS. REPS.—SALES AGENTS: Firm specializing in contract filling and packaging of collapsible tubes, bottles, jars, bags, etc., wishes to make their services available to a greater number of manufacturers. Liberal commissions, based on gross value of contracts. Representation in many fields desired. Write or call for further details. Nalorac Packaging Corporation, 657 15th Avenue, Irvington, N.J., ESsex 4-3875.

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SALES REPRESENTATIVE: In packaging equipment, machinery and/or products in metropolitan New York area. Presently top graphic arts equipment salesman with large loyal following among printers, food and drug outfit. Box 408, Modern Packaging.

TWO EXPD. PKG. SPECIALISTS: Married with families want to represent in Omaha and surrounding areas aggressive, modern packaging companies. Employed for many years by two of the larger packaging and container companies. Personally acquainted with buyers and top management of many industries. Can furnish excellent references. Address your reply to Box 1741, Benson Station, Omaha 4, Nebraska.

SALES ENGINEER: Ten years experience, technical and marketing background, age 36 with young family wants position not involving continuous travel. Qualified management level sales, sales development, promotion, technical service. Broad experience paper and packaging industry. Thoroughly familiar fine, coarse, technical papers; films foils, laminations, graphic arts, and packaging machinery. Particularly versed all forms polyethylene extrusion lamination. Presently located Midwest. Box 413, Modern Packaging.

PACKAGING REPRESENTATIVE: Experienced folding carton salesman maintaining New York office desires to represent manufacturer in North Atlantic states. Box [illegible], Modern Packaging.

MECHANICAL ENGINEER: Experience in vacuum and drape forming. Also wide experience in plastic packaging. Experience includes design of automatic vacuum forming and packaging equipment. Desire design position. Box 403, Modern Packaging.

Miscellaneous

WANTED: Plastics scrap and rejects in any form: Cellulose Acetate, Butyrate, Polystyrene, Vinyl, Polyethylene, etc. We pay top prices for Clear, Colored and Printed scrap in any quantity.
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—that are nontoxic and can be used for all hot or cold foods and liquids...

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—that are nontoxic... safe for baby to teethe on...

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that are fast and easy to manufacture...safe for contact with both fatty and nonfatty foods...

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that increase production rates several hundred per cent over ordinary pastes and glues and meet F.&D.A. requirements for food packaging.

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MODERN PACKAGING

A BRESKIN Publication

Published by Modern Packaging Corp., 575 Madison Avenue, New York 22, N.Y.

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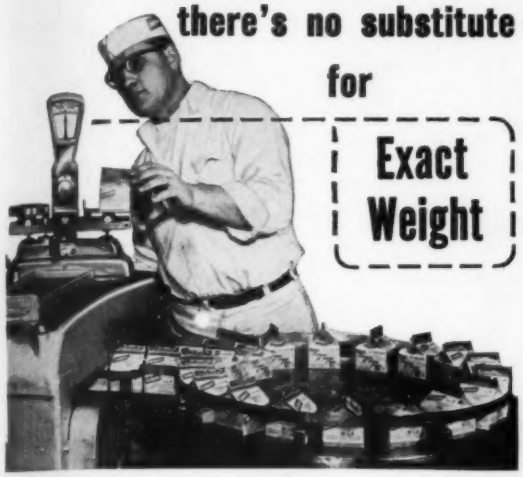

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Better cost control

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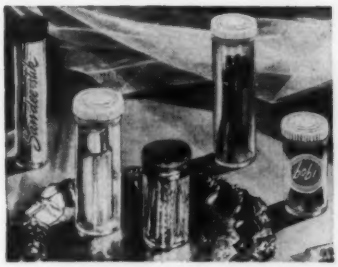

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LERMER Plastic Containers are:

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- **Tasteless and Odorless**
- **Available in Clear, Opaque, or Colors**
- **Printed during Manufacture**
- **Uniform for easy filling and capping**
- **Container has convenient Re-Use value — a constant reminder for repeat business**
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Write for samples, catalog and prices.

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VISQUEEN

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